

M
25 HARVARD UNIVERSITY HERBARIUM.

Gram
M

Bought



Quebec, Canada. P.

July 26th 1850 1st 1859.

My dear Sir,

I had the pleasure of receiving two days ago after a short visit to Montreal your parcel of plants. At present I have only made a cursory inspection of them but I see they contain many objects of great interest and some few that I have never seen before. I will examine them with as little delay as possible and return them intended to be returned with care. I think Dr. Poirer told me that he had published descriptions of some of these crabs and a very short time ago I

one a tree that he had is named amongst which
was Wright 748. which I had provisionally named
Antennaria lanosa and which he told me was *Chondrilla*
speciosa Poir. is *laevigata* which and then is identical
with your number 130 & 131 which I have named *Monte-*
lina eripoda Poir. I should be very glad indeed
to obtain a copy of these papers of yours which I have
of me often by increasing names.

I cannot think that *Ulmus* *ulmus* & *Hedera*
although I see that in some instances the names are identical
and to be checked but the fruit is quite different
from *Hedera* and I cannot see how to be very
silly allies to *Ulmus* and very near to Wright
702. which I have provisionally called *Ulmus pasti-*
gata to Mr. Mearns

Your No. 118. is decidedly *Arundo donax* L.
which runs for every part of the world. I cannot
have examined upward of 100 sheets I should

think of it is Mr. Hooker. It is also

Arundo arundinacea R. & B.

Arundo Donaxensis Nutt.

Amphiderus Woodhousii R. & B.

Arundo ramulosa Sargent

Arundo bifaria Hb. Nutt.

Your No. 180 is *Salix tenuifolia* L. Hb.

There is the same as the same species

as *Salix* is the same sheet. The sheet is the

sheet is marked L. *Salix* by Nutt and some

perhaps to compare in names. These specimens

identical with yours, for *Salix* and for *Salix*.

These few I identified for me and I will write
about them as I can decide on them.

Believe me,

Yours very truly

William Mearns

1st 1859.

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Quebec.

February 11th 1859.

My dear Sir,

I have at last finished
all the grasses you entrusted me with. I am
very sorry that I should have kept them so
long but very many of them were critical species
and with many of them I find it necessary when
I once begin to work up the whole genus and
this as you know takes up much time especi-
ally when that time can only be had by snatches.
I have been very much interested in the examination
and am much to be desired in the examination
of them note to my herbarium. Tomorrow I

I will dispatch ~~the~~ parcel to
your address containing all the plants you
wished to be returned and I have added
some few duplicates from my own herbarium
which I thought might have some interest to

you. I am sorry they are not more valuable
and more numerous but travelling so much
about the world as my business compels me to do.
I have of course been compelled to take as few
duplicates as possible about with me. Some
few of the Gottholsten and Kunzean grasses are
all I think find interesting. You mention
in your note that you had heard from Dr. Gray
that some respecting some more grasses from
a Dr. Purdy. My reason for saying so was that one
of the officers of my regiment who had the

pleasure of seeing Dr. Purdy in N. York
told me that Dr. P. had stated that he intended
to send a parcel to me by that officer but that it
had not arrived when Mr. Catlett's left
N. York. I am afraid I cannot have the
pleasure of adding anything of value to your
collection of autographs and portraits of botanists.
When I return to England I could doubtless do so
I should much value the portraits in residence. There
is one published of myself which we of course
the friends of Purdy.

I should esteem much any notes about Malakian
plants as I feel doubtful about so many of them
and I like when I return to England to bring out
of Purdy a species Gramineae as well as a few
and the various interesting herbaria to me.

Hundred original species. Pray give my
kind regards and compliments to Dr. Poiry
and with the same to yourself

Believe me,

Yours very truly

William Morris.

Dr. Gray was good enough to send me a copy of Mr.
Whipple's list of plants with Gray's & Morris's reports and
I have in consequence been enabled to send you of Poiry's species
If at any time you are reading any French I should be
glad that I could have a sheet of Poiry's plants.
Wishes that I should know and notice imperfectly.
P.S.

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5. L

1. *Indica*

Yes;

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July

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PLANTA 76-1549

- No 1 - *Phalaris*, Giln, Schott.
 2 & 3 ——— 1794 Berlud & 2440,
 4 ——— Rio Sta Maria, Bigel,
 5 ——— Californian - Filer
 6 *Helian* - 1638 Coultter
 7 ——— Rock Creek Bigel,
 8 *Alnus* - Rio Grande Schott
 9 ——— 1434 Berlud,
 10 *Antiphora*? ———
 11 *Leupago* Fl
 12 ——— Presidio del Norte Bigel
 12 in *Dasylis* - Pecos Bigel
 13 ——— distinct Thurb -
 14 ——— Bigel.
 15 *Brachylo* - Dunes
 16 ——— Thurb
 17 *Panicum* Coloma? -
 18 *Silene* Station Bigel,

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pms 76-1849

Flowers Gramineae.
Phalarideae

N^o 1 to 5 are all Phalaris intermedia Bosc.

6 & 7 are Heteria cenchroides H. B. K. I doubt whether there is any distinction between Heteria and Hexanthera, they both decidedly belong to Phalarideae. Mr. Fig VII t. 3. is a remarkably good one. Heteria anteflora punctulata & a. Berlandieri Steud: to be thus also. Wright 750 & 751 are the same.

Paniceae.

8 & 9. are Cenchrus myosuroides H. B. K.

10. is Anteflora aculeiflora Steud. see note about anteflora above.

11 & 12 are Lappago racemosa, Willd: Hartwig N^o 250 & L. dithyris 721 are the same

12 bis is Paspalum plicatulum Michx. Very near P. have, distichum, Anteflorum and purpurascens. Bruns? N^o 303 & 342 are the same.

13 & 14 are Pasp. distichum, Linn. Herb! P. vaginatum, Sw.

15 is Eriochloa sericea Munro. Paspalum sericeum Schreb. & Linn. Panicum sericatum Schreb. Steud. not Holcus pilosus Pers. which has the branches of the panicle more compound, and has quite a different appearance. Wright 791 & 793. Lindl: 544 & Bruns? 376 are all the same.

16 is Eriochloa acuminata Kth - a good species well distinguished by the unequal glumes and quite distinct from P. acuminata. Eriochloa or Holcus is certainly a good genus well marked by the callous jointing of the spicula. Eriochloa was published by Kunth in 1815 and therefore must take precedence of Holcus published by Pers. in 1820.

17 is Panicum (Eriochloa) erus Gall. L. not P. colonum.

18. is Setaria Italica A. de B. both the seed smoother than I have ever previously observed it. It looks very like a cultivated form of S. viridis.

Setaria viridis.

- no 19 Puerto ie Payson, Bigel.
 " 20 Burno Mts. ——— Antisell
 " 21 2095 Wright
 " 22 Santa Cruz, Th.
Panicum virgatum
 " 23 Rock Creek, Bigel.
 " 24 Limpio
 " 25 " Large specimen
 " 26 Painted Camp. "
P. bulbosa
 " 27 2086 Wright
 " 28 Copper mines, Wright
P. divergens
 " 29 Frontera, Big
 " 30 Rock Creek. "
P. fuscum
 " 31 2091 Wright
 " 32 383 Drum, 797 " 2332" Besland.
 " 33 2070 2091 "
Pan. giganteum, Schuele?
 " 34 348, Drummond
P. obtusum
 " 35 Santa Cruz 701 Th.
 " 36 2092 Wright
 " 37 Van Horn Wells, Bigel.
 " 38 Rock Creek
 " 39 Laguna Colorado, " Whips.
 " 40 *P. leucosphaerum*
 " 40 Rock Creek Bigel.
 " 41 Sonora 448, Thurb.
Pan. undetermined
 " 42 Cebolo of the Rio Grande, Bigel.
 " 43 Sonora 1021 Th.

12

2.

Thurber's Grasses - Panicum, continued.

N^{os} 19 to 22 are Setaria candelata R. & Sch. Wright N. 800 & Gardner 139 are the same.

N^{os} 23 to 26 are Panicum virgatum L. In N^o 25 the vergins are unusually hirsute.

N^{os} 27 & 28 are I believe Panicum maximum Lag. var. ^B pubescens of Pers. also P. octomerum of Lag. & H. B. The ligules are fringed in that respect it differs from P. maximum.

N^{os} 29 & 30 are Panicum divergens Willd. (1817) P. cognatum Schult. (1824) and Pers. P. autumnale Don. (1825) B. 289. is the same.

N^{os} 31 to 33 are Panicum piscum Sw.!

N^o 34 is Panicum agrostoides Muhl. differs from P. giganteum Schreb. in having the lower flowers bearded at the apex whereas P. giganteum does not to ligulatus. Have it as Drum? 343.

N^{os} 35, 37, 38, 39 are Panicum Missouri H. B. H. Drum? 371 & 382 and Hartweg N^o 344 are all the same.

N^o 36 is Panicum (Setaria) junisetum Pers. This was mixed with the preceding.

N^{os} 40 & 41 are Panicum tenuiphaeum H. B. H. with narrow leaves in 40 with very hirsute vagina in 41 smooth. The lig. are numerous amongst which I include Panicum (Digitaria) phaeostria Pers. a form with fewer branches to the panicle. — Lindl. 722 & 723 are the same as also Pers. Californicum Benth. in Hinds Herb. All well distinguished by the much acuminate lower flower.

N^o 42 is Panicum retusum Michx. L. & Pers.

N^o 43 contains two plants. ^{with pubescent sheaths} Part is the same as N^o 42 and the other part is I believe a form of P. capillare L. with short pedicels. very close to P. miliare L. & P. Neesianum Willd. & Arnott. Have exactly similar specimens collected by Engelm. on the W. Coast.

- Stipa Musiana*
- No. 44 *Stipa Lindb. (S. ciliatus)*
- " 45 263 (1849) Wright
- " 46 Wright 1848 - I.S. Drum.
- " 47 San Diego, Cal. Parry
- " *S. virescens*
- " 48 *S. virgata*
- " 49 *S. limbricata* Bigel.
- " 50 *Cobres* Wright
- " 50" 1997
- " 50" " dupl.
- " 51 *S. permata* Th.
- " *S. limbrata*
- " 52 *S. hyalina?*
- " 52 Painted Camp. Bigel.
- " 53 1999 Wright
- " *Stipa or Onzopsis?*
- " 54 2000 Wright. (Herb. Parry)
- " 55 Large *Stipa*, Oct 13/33 Big. Whip.
- " *Arctostaphylos speciformis*
- " 56 San Pedro Bigel.
- A. purpurea*
- 57 Rio Leon Bigel
58. Rendio del Norte Bigel
- 59 2551 Berland
60. 1777 Berland.
- 61 Camp Buache Bigel
- 62 2006 Wright
- 63 2004 —
- 64- 2015 —
- 65 Rio Limpia Bigel
- 66 293 Drum.

Murbies Gramineae
Stipaceae.

3.

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- N^o 44, 46, 47 are *Stipae setigera* Presl. *S. Neesiana* Trin. *S. leucostriata* Presl. *S. ciliata* Schult. in *Linnaea*. *S. viridis* is quite distinct in its longitudinally striped palea. My spec. from *S. alba* is N^o 54.
- N^o 45 is *Stipae curvatus* Cav. *S. uncinata* H. B. K. var. *longicauda*, distinct from the preceding in the palea hirsute all over.
- N^o 48 is *S. virens* H. B. K. Probably a large form of *S. carulea* & *S. fimbriata*.
- N^o 49 & 50 are *S. fimbriata* H. B. K. varying into *S. carulea* Presl. (Curtis N^o 1154!) or H. B. K. as the same.
- N^o 51 is *S. pennata*? L. Rather doubtful, with the palea pubescent all over. It is *S. pennata* & must be var. β . The lower part of the awn is more or less pubescent. Judging from a single specimen I should say it was intermediate between *S. pennata* and *S. Szovitsiana*.
- N^o 52 is an old specimen of *S. fimbriata* H. B. K. The same as 49 & 50.
- N^o 53 is *S. tenuissimum* Trin: near to *S. hyalina*. Leaves remarkably scabrous.
- N^o 54 is *Oryzopsis* nov. sp. or perhaps *O. micrantha* Trin sub: *brachy*.
- N^o 55 is *Stipae viridula* Trin: I have seen it from Carlton House Park (Horn?) & Botley M^o (Geyser N^o 144.) California (Curtis N^o 715.)
- N^o 56 is *Arctostida subspicata* Trin: Melice. I sent a small scrap for comparison from Galapagos Isl. the only spec. I have, loss.
- N^o 57 to 61 & 63 & 66 are necessary forms of *A. purpurica* Nutt: Brum? N^o 295! & 304! Weight 743! & length 562! which is *A. requirana* Schult. and the same.

- Aristida purpurea*,
 67 - *A. pulchra* Fresc
 68 - San Bernardino Thicket,
 69 Colne Bigel,
 A. Scheideana aff
 70 - Colne Bigel
 71 *Saguna Colorado* Big Whip
 A. Scheideana
 72 Colne Spring Bigel
 73 Colne, H. Egyptian Bigel
 A. refracta?
 74 Big Whip,
 undetermined
 75 Tulare Valley, Blake. Herb Torr,
 A. dispersa?
 76. Fort. Yuma, Bigel Thomas
 A. Californica
 77. Colorado desert. Schott, H. Torr.

Murphy's Gramineae. Stipaceae continued.

4. 12

- N^o 12 & 14 A var of A. purpurea with few flowers and very long awns
and are the same as A. Lindb. 543! which is A. Manniana. Schreb.
- N^o 15. The same form with the spike unusually scabrous.
- N^o 17. A more doubtful form as the spike is unusually glabrous.
- N^o 18 & 19. Seen at any rate a good variety distinguished by the very
short pedicels. They are A. Pennsylvanica Steud: I have Pendl. N^o
973 and have called it in Hb. Humboldt A. nov. sp. near A. digantha
Pendl. 978 which Steudt calls A. longicula is the same plant.
- N^o 70 & 71 Aristida Schrebiana. Pir. Steudt. They are also very close to A. longica
near prospicea and A. complanata.
- N^o 72. A. Schrebiana Pir. Steudt. My my notes I see that Wright 748! in
Hb. Humboldt was also A. Schrebiana.
- N^o 73. Erigeron, also I suppose A. Schrebiana. It seems also to come very near to
Aristida [?] tenuis H.B.K. Very probably N^o 70 to 73 are ^{all} the
same. I have examined them carefully but have been much puzzled.
- N^o 74. " Aristida divaricata H.B.K. as I understand the plant. Very close to
A. longica Pir: Wright 742! and Pendl. 974! I consider the same.
- N^o 75. Differs from A. Humboldtiana in not having a distinct apex to the
flower. The glumes very considerably. Apparently very closely to A. tenuifera
Cavan with the lateral setae longer than there described.
- N^o 76 is A. dispersa Pir: but it ought to be called by me of Murphy's names. N^o
740 of Wright is the same.
- N^o 77. Aristida (Arthratherum) nov. sp.

- Lysurus phleoides
 78 Bygel, Cobre
 Vilfa tricholepis
 79 Whip
 80 Cobre
 Vilfa utilis
 81. Pedro punta Bygel
 V. utilis var?
 82 Cooks Spring, Bygel.
 V. filiculmis
 83. Plaza Curya Byg. Whip.
 84 1973 Wright.
 Sporobolus
 85 1976. Wright.
 86 S. guianensis
 Thurb.
 87 Cooks Spring, Bygel
 88 Upper Republicum Engell
 S. communis
 89 Bygel
 90 Thurb.
 91 1980 Wz.
 Agrostis verticillata
 Thurb.
 92 A. sparuta
 93 - Cobre } Bygel
 94 - Guandres }

Murber's Gramineae. Agrostioides.

67

12

N^o 78 is Lycurus phalaroides H.B.K. Wight 750! is the same. In Herbs Trin:
Cult: Dublin. Poulton 1848 is L. phalaroides

N^o 79 & 80 are Polypoa tricholepis Poir: a good species near P. Plumbea Poir. The palea
conspicuously hairy. The culms vary much in shape from nearly
globular to an elongated form.

N^o 81 is Polypoa utilis Poir: Same as Lindb. N^o 559.

N^o 82 is Polypoa repens Poir: or any species. No name in Wight 746! and very
close to of which identical with P. ovumosa of what I have a specimen
from the Columbia.

N^o 83. Polypoa pilicultrix Mur: A good species very close to P. fastigiata Poir.
but differing in size and having hairy palea in which respect it ap-
proaches P. unispicata. It appears almost intermediate between
P. Plumbea & P. fastigiata and perhaps indicates that several of
the supposed species of this division of Polypoa or Sporobolus ought
to be combined.

N^o 84 is Cirina macrochaeta Kth a var. with the callus perfectly smooth.
The presence of a callus separates it from Polypoa.

N^o 85 is Sporobolus unisp. near P. pubescens, P. Wrightii Munro in Herb: Linn:
distinct. P. Lycopodioides. Upper palea turning divided in fruiting

N^o 86 & 87 are Spor: ramulosus Kth.

N^o 88 is Spor: asperifolius Nees et Meyen. Same as Wight 737!

N^o 89 & 90 are Spor: Ceramandelianus Kth var. Poir: L. commutatus Kunth & Poir:

N^o 91 is Spor: cryptandrus A Gray nondum expansa. Same as Wight 728! Lindb: 724!

N^o 92 is Agrostis verticillata Vahl.

N^o 93 & 94 are A. exarata Poir: The same as A. asperifolia, A. pallens and A. Schiedeana Poir:
In 93 the glumes are hirsute all over. Poulton N^o 962 is the same.

- Arundo,
 118 Rio Eagle Paps. Bigel
 Pappophorum Bonate
 119 Betu San Pedro + Bonate Sp. Bigel
 P. mucronulatum
 Mouth of Rio Bigel
 120 - Cotton pappophoroides
 Ojo Caliente Th.
 121 R. Semis
 122 Bigel
 Gutierrezia prostratum
 123 - Sonora Th.
 Chloris alba
 124 - Big. Whiff.
 G. verticillatus
 125 - Muncy
 M - Flant.
 126 Cornucopia Sp. Bigel
 127 G. Grayii
 128 Catols of Rio S. Bigel
 G. latifolia
 2025 W. H. Torr.
 129 Brontetoma triopoda
 130 Big Whiff
 131 Presidio Big.

Phalaris Gramineae.

Arundinaceae, Pappophoraceae 7.
and Chloridaceae.

12

Arundinaceae

N^o 118 is Arundo Donax L.

Pappophoraceae.

N^o 119. is Pappophorum (Quereflogus) bracte. Led. Wright 751! is the same altho' it has the third flower. In Hb. Mentha I have called it: P. paludum Mo. and Nelson they both are P. phalaridis And. Vahlst.

N^o 120 is Papp. (Myriopholis) unio sp. apertum Munro. in Hb. Mentha. Same as Wright 803! Not P. microdonatum which is particularly described by Pursh as having the awns only as long as the glumes.

N^o 121 is "Lilaea pappophoroides" Kunth.

N^o 122 is a new Genus unlike any I know. Spiculis 4 fls: 2 inferi & 1 superi def. fructus testis sola fertili.

N^o 123 is "Calothecium persicatum Presl." This belongs to Chloridaceae and comes very close to Melanocentris Stees. The Genus requires considerable alterations in description. Glume of the lower flower very unequal, upper one scarcely visible. Lateral awns of the lower only are feathered. Upper flower as long as the lower. In upper and middle flowers the glumes are quite as unequal and certainly have not plumose awns as in.

Chloridaceae.

N^o 124 is "Chloris alba." Presl.

N^o 125, 126 & 127 are "Chloris verticillata" Nutt. Lindheimer 730! is the same.

N^o 128. is Leptochloris Greggii. Same as Wright 744! I considered this a new Genus and called it Leptochloris in Hb. Mentha. & Hb. Hook. but the name is not published.

N^o 129. I called Leptochloris latifolia Munro. in Hb. Mentha. & Hb. D.C. B. You have I observe adopted the same specific name. N^o Wright 743!

N^o 130 & 131. "Distichlis eriochloa Poir." Same as Wright 748! Distichlis lauracea Munro in Hb. Hook. Dr. Poir. in Indrag was my Gramineae told me this was Chloridaceae peruana Poir. in Emery's Report.

- 95 *Muklontegia glomerata*
Minked Bigel
- 96 - *M. viscosa*
Copper Mines Bigel
- 97 *M. Berlandieri*
Wild Rose Pass } Bigel,
98 San Pedro de }
M. debilis,
99 Hunt,
M. gracilis
100 Big Whipp
M. Calamagrostidea
101 1985 Wright
731
102 Mex. Parkinson,
103 - *M. Texana*
104 - Head of San Pedro Bigel
105 Rain near Concho —
106 734 Wright
107 Rio G. near San Diego Big,
M. gracillima
108 Big Whipp,
M. distichophylla
109 1990 Wz
110 Colre Bigel
Epicarpus gracilis
Rio Leon Bigel
111 *Muklon. undeterm*
112 Colre Oct. 12. Bigel
113 Painted Cases —
114 Colre Oct. 23/61 —
115 Painted Cases —
117 165-6 Coulter,

Muthe's Gramineae. Agrostideae continued.

- No 95 is Muhlenbergia glomerata Pur. of diffuse and much branched growth.
- No 96 is M. viscidens Pur. I am sure altho' it differs from his description in having the glumes nearly equal, the branches of the panicle shorter and the leaves broader and much longer.
- No 97 & 98. M. Berlandieri Pur. More scabrous than usual.
- No 99 is M. debilis Pur.
- No 100 is M. gracilis Pur. Avar with the palea remarkably scabrous.
- No 101 is M. calamagrostidea Kth var seta brevior No 102 is the same.
- No 102 is M. sylvatica Pur. var lygulis elongatis Steud. angustis. In Hb. Muthe I have called it M. unispicatus M. sylvatica - Parry's specimen is rather different with more obtuse glumes. No 103 is the same.
- No 103 is M. calamagrostidea Kth & M. longiseta Benth.
- No 104 to 107. M. Pexana Munten. A good species, apparently widely spread in Texas.
- No 108 M. gracillima, Torrey.
- No 109 & 110 M. distichophylla Kth No 109 is a var. with long awns. In 110 the upper part of the spike is almost scutellus. No 111 is the same.
- No 111 Opicampes gracilis Presl. I am inclined to think this is also M. distichophylla. a small conspicuous awn is present. The palea are very obtuse. I doubt think Opicampes is a good genus.
- No 112 is the same as 101.
- No 113 is M. sylvatica Torrey.
- No 114 is M. near M. Berlandieri Pur. No imperfect to be certain of the species but it differs from M. Berlandieri in having the palea scabrous only towards the tip and the glumes more scabrous.
- No 115 is the same as 102.
- No 116 is Stenobolus caudatus Kth var glumis non nunquam pilosis.
- No 117 is Megopogon arisetus Ret. Sch. with the awns unusually long.

Bouteloua trifida

132 No. 2022 No. 2,

B. polystachya

133 Arroyo Cutolo Big

134 Burrero Mts, —

135 Presidio del Norte —

136 Sonora, Fl.

B. trichantha

137

Rocks Creek Big

138

Camp of Valley of Death —

B. aristoides

139

Burr Mts Big

B. crumoides

140

Sonora Fl.

141

Tulac Perry,

B. juncifolia

142

Puerto de Agua Schott,

B. polystachya

143 -

Big Mts.

144

Puerto de Reyes Big.

Neurophus Juncifolia

145

Frontera Tex. Big,

B. rigidus

146

Fort Guana, Mex. Thomas,

Leptochloa Dulcis

147

Puerto de Reyes Big

148

Rocks Cr. Big

B. imbricatus

149

Rio G. Schott.

150

Known 1886 Thurber,

205

766 No.

207

Cook's Spring No 3/51. Big

208

Colorado Bottom Schott No 9.

- 151 - *Ruellia crustacea* W.
 Copper Mine Bright
 152 - *Brizopyrum spicatum*
 Red River Nursery
 153 *Pis 5, Bright*
 154 *Pis 5, Bright*
 155 *San Elizario Bright,*
Melica
 156. *San Diego Paddy,*
Bromus carinatus
 157 2065 W.
 158 2067
 159 2068
 160 2069
 161 *Poa?*
 162 *Lup 46. Th*
Oryza Nut Bright
 163 *Poa?*
Oryza Nut Bright
 164 *San Diego Paddy*
 165 *Star Gray Wm -*
 166 *Copper Mine Bright,*
Eragrostis Mexicana
 167 *Coke Bright*
E. Perskin San,
 168 *Scirpus Bright*
Glyceria pungens
 169 *Lup 46. Th*

Numbers Gramineae. Poaceae.

9.

No 151 is "Holcus cristatus" Pers. anan. with narrow leaves

No 152 to 155 are all "Brizopyrum spicatum" Hook of which the ears are very numerous. Hook. Pol. in Pl. Paris: reduces this Genus and places it in Poaceae and I think erroneously. The many nerved glumes and palea are a very good distinctive mark.

No 156 is Melica imperfecta Trin. M. colpodoides Steud. Perhaps English specimens are M. prostrata Nutt. of which I have no description.

No 157 to 160 are Bromus ciliatus L. var pungens

No 161 & 162. Poa annua L. var annua panicula scabra. Pennell No 931! is the same 15 inches high. I doubt there is a rigid. M.

No 163 to 166 Sclerostoma californicum Munro in M. Hartw. No 2032. By Sclerostoma I mean the genus which is now called Alopecurus and by a few the section Sclerostoma of Glycine. It is Cruciatum Pennelliana. Heads like Pennell No 932! I believe part of Geyser No 12 to be the same. Custer No 782! is the same. It may possibly be Poa angusta Michx. The structure of the palea separates it from Poa heteroides.

No 167 is Cruciatum pilifera Schreb. the same I believe as C. lugens & polytricha from Brazil. C. mexicana Link. I suppose to be the same but the ears are very different, it is almost impossible to separate them save a Wright. No 168 is Cruciatum delicatula Trin. Identical with some specimens from Buenos Ayres.

I think it may be Poa tenella Michx. A. Link. No 2046 may be a state of Cruciatum Michx. as I suspect. In some respects I find Cruciatum more like Cruciatum than any other Genus. Wright No 2046 suited by me for this is also suited for Panicum verticillatum.

No 169 is a new species of Sclerostoma or Alopecurus closely allied to Sclerostoma Steud. Palea less conspicuously nerved than usual and very generally there are only 3 nerves. The mouth of the vagina is fringed with long hairs.

- 170 *Gnathonia spicata* Van,
 Monterey Cal. Pursey
Trisetum foliaceum's
 Schmidheimer
 171 *Trisetum montanum* Torr
 172 Big. Whips, original
 173 2046 Wright
 2064
 174 779 M -
 175 *Trisetum pulchellum*
 Texas Th
 176 Leon Spring Bigel
 177 *T. arvense*
 178 781 M.
T. complanatum
 Leon Springs Bigel
 179 *Trisetum* 778 M.
 209 — 426 M.
 210 — 775 M.
 211 *Lolium temulentum*
 180 Th
Friticium cuneum B. Gmelin
 181 Spreading
 181 W. ~~Coppin~~ *Trisetum* Bigel 2072 M.
T. repens
 182 2072 M.
 183 Coppin *Trisetum* Bigel
 184 *Hordeum pusillum*
 El Paso Bigel
 184

- No 170. is Danthonia spicata H. & B. see notes with plant returned.
- No 171 is Pisclum elongatum H. & B. One may due to P. robustum. Per. det. as P. Mucense H. & B. is a sign of P. robustum. This plant certainly is not allied to robustum.
- No 172 & 173 "Picuspis unguis Pom." 173 has the vagina decidedly hirsute below the top. The caryopsis in both numbers is pedicelled. Wright No 2040 gathered for this has also been used for hagueria delicatula.
- No 174 is Pice tinoviglanis Munro. distinguished from the preceding by the 3 newed app. glume. Same as Brown? No 307. Dr. Hook. Lind. Called this with a? Urolepis? ambigua Kunth.
- No 175 is Pice unguis Pom. set. along hirsute. Urolepis hirsuta Munro in H. & B. sub Wright No 779! Wright 780! is the same.
- No 176 & 177 are "Picuspis pulchella Pom." Urolepis fastigiata Munro in H. & B. sub Wright No 782! parts
- No 178. "Picuspis avinacea" Urolepis Muga Munro in H. & B. sub Wright No 782! parts Wright 781! in H. & B. sub Wright! is your rank plant.
- No 179. "Picuspis unguis" Pice acuminata Munro in H. & B. Per. det. No 915! Lind. No 730 are the same. Kunth. 1872! is very near it.
- No 209 & 210 are Picuspis adhaerens Munro. Urolepis adhaerens Munro in H. & B. sub Wright! & H. & B. sub Wright! Lind. No 737! & B. 314 are the same.
- No 210 is Picuspis unguis near P. osteroides, see notes in Spec. returned.

Hordeaceae.

- No 180. is Lolium tenuicentum L! L. arvense Kunth in Linn. Herb.! an ordinary form.
- No 181 is Ulymus condensatus Nees. A tall form, lower leaves pubescent.
- No 181 bis. 182 & 183 are all Panicum repens L. I had 181 bis. previously from Nees as the common Panicum repens Grass. P. communis Gleditsch has a ^{very} different look.
- No 184 is Hordeum pusillum Nutt.

- 185- *Hordnia julatum*,
 Long. St. Maria Bigel
 186 971 Wright,
Sitonia
 187 *Coptochus Bigel*
 188 Camp Bacha —
 San Diego. Th
 189 Cal. Fitch.
 190 *Murron lyrata*,
 191 *horvathii* Th.
 192 *Bigel, Whips*,
Mammis granularis
 193 St. Cruz Th.
Heteropogon nutans
 194 *horvathii* Th.
 195 Rio S. Bigel
Andropogon candidus
 196 *Simpson Bigel*
A. furcatus
 197 *Pinetale Camp Bigel*
 198 *Mimbres Bigel*
Andropogon
 199 *Bigel Whips*
 200 Rio Grande Bigel
 201 2103 Wright
 202 *A. argenteus*
 2378 Berles
 203 — *unary*
superatus
 204 Rio E. Bigel
~~205~~ *Chlorites*
 206 766 Wright,

Murphy's Gramineae.

Hordeaceae, continued
and Andropogoneae.

N^o 185 & 186 are Hordeum Ingletoni L. var. adpressum H. B. K. Hartweg 2025! ^{same as 2}
N^o 187 to 190. Pectanion elymoides Rafin. A valuable series showing how many species and even Genera might be made out of this one. Pers; Pendo No 903 is the same.

N^o 191 & 192. Munroa squarrosa Torr. I consider this is a very good genus of very remarkable structure. It should place it in the rank to Hordeum or Pennisetum in the doubtful ground between Avenaceae and Poaceae.

Andropogoneae.

N^o 193. is Manisuris granulata Sw.

N^o 194 & 195 are Andropogon hirtus Pers. h. contortus A. N. S. H. N. H. 809! is the same.

N^o 196 is Plinurus ciliaris H. B. K. stem below the nodes unusually hirsute. Andropogon candidus N. H. ^{is} 21-20

N^o 197 is Andropogon furcatus Muell. var. vagans hirsute. A. tenuis is a species to differ in having leaves 3 lines broad & spikes 5-6 inches long.

N^o 198 is Andropogon hirtifolius? Most sanglabresiens I believe

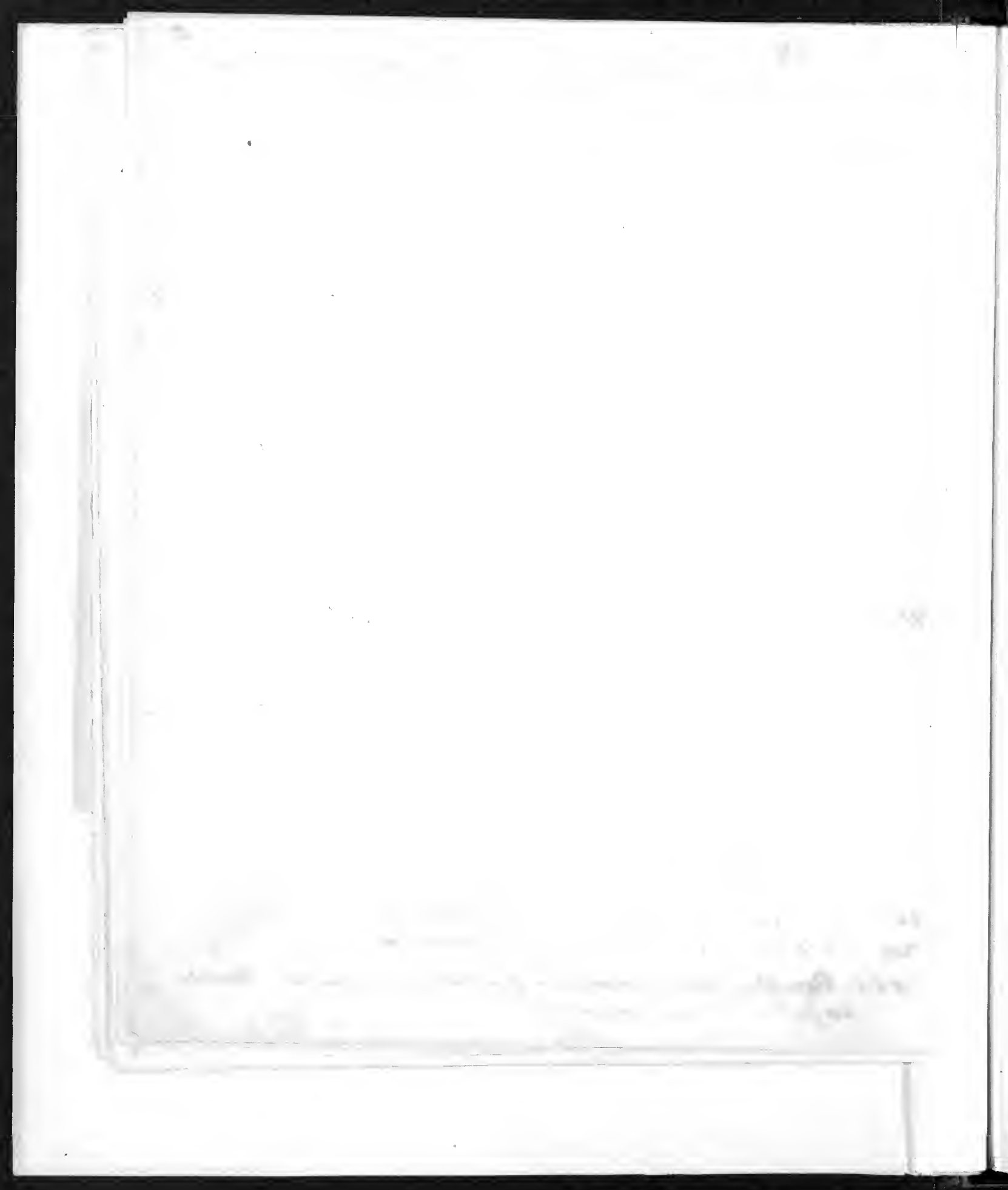
N^o 199 to 203 are all Andropogon argenteus Card. var. luteus is my opinion. It is apparently glabrous specimens the nodes are conspicuously hirsute. I have examined all very carefully and can find out no real distinction. Drum? 211 is the same also A. cuneifolius Pers. described from the terminal spikelets.

N^o 204 is "Purpurea amandinae" A. N. S. H.

N^o 205. 207 & 208 will be found at end of Chlorideae.

N^o 209. 210 & 211 " " " " Avenaceae.

N^o 206 is Uloanthus squarrosus N. H. sp. spec. in nom. ex Herb. Hort. H. see further notes with spec. returned.



Phalaris intermedia Boeck. - Munro & R. Hartney, p. 342

P. microstachya DC. Bot. p. 131; *P. Americana*
Ell. Sk. 1. p. 101; (non Torr.) *P. angusta* Nees Fl. Bras. 2
p. 391; ~~*P. trinialis* Ait.~~ ~~*P. calif.*~~ *P. occidentalis* Nutt.
in Trans am phil Soc. N. S. D. p. 144; *P. trinialis* Ait.;
P. Californica. Hook & Arn. Bot. Beechey, p. 161.

For a widely diffused species, the different forms of which - due to the stage of development - are hardly varieties, much less species - we agree with Munro in referring them all to the older name of *Bosc.* - In the case of the 2nd. specimen the spine is somewhat interrupted below.

1966 Wright, Rio Grande & Rita Schwartz - ³²⁻¹⁰ ⁻¹⁵ ²⁴⁻²⁰
 Bynow; Bolton & Chapman Gregg, Nos 1010, & 24-20
 Berlant; Along the coast, California, Kelly, Hulse
 Fitch & Rich.

Hiaria cuneata H.B.K., l. tab 37; Rth. Gum. l. p 308.
Sept. 22. tab 7.

Cookes Spring the top of Rose Creek, Michigan;

$NW 2109 + 2110$ ~~WZ~~, $(75.9 + 75.8; 182.9)$

The flames in some are thickly sprinkled with blackish or reddish dots & in others they are wanting (Can *Wells Hexarrhen* be distinct? - Does this belong in *Chalaridinae*?). Compare *Pleuraphis*.)

$(2.107 \text{ m} - 1.25 \text{ i}) - 103.6$

Length 92-1849

Phalaris Munro

- | | | |
|----|----------|---------------------|
| 1. | Phalaris | Wm Schott |
| 2 | — | 1794 Berl |
| 3 | — | 2440 " |
| 4 | — | Pro the Munro Bigel |
| 5 | — | Californian Fitch |
| 6 | Phalaris | 1638 Bonilla |
| 7 | — | Rockler Bigel |

Lizania agrestica, Michx., Flor., 1. p. 745.

Reichb. Icon. 1. p. 10 + suppl. p. 8. tab. 1.

Marginal of River near San Antonio's River.
Thurber -

U. S. A. -
 P. S. A. -

Panama
 Panama
 Antigua
 Lippin
 K. S. A. -
 K. S. A. -

Antephora apolliflora Steud by a Thun. l. p. 111

near Eagle Pass. Schott; No 2079 No. + 785 Col of 1879.
Tegus, Drummond 359 of 2^d Col; Arkansas Dr. Leavenworth -

Perennial, caespitose, culms slender 3-6" high.
Sheaths shorter than the internodes sometimes pubescent on the throat; leaves narrow linear, setaceous acuminate at apex, the lower elongated, equalling or exceeding the culm. The upper 2 or 3 approximate thin charted membranous striate sheaths forming a kind of involucre which closely invests the flowers. ~~Leaves~~ all smooth or pilose with scattered hairs especially near the base. Spikelets 2-4. somewhat capitate, common rachis slender smooth. Partial rachis contracted so as to bring the ~~flowers~~ ^{spikelets} into a more or less globose ~~spikelet~~ ^{head} which is short pedicellate, the pedicel being at base. Spikelets 1 flowered: outer glume indurated & thickened, confluent with the rachis at ~~the~~ the narrow base - leaving a rounded sinus between each pair only two ~~flowers~~ ^{spikelets} ~~sinus~~ ^{sinus}.
A ~~irregularly~~ ^{irregularly} oblong(?) contracted at base & near the apex which is trifid, divisions subulate ~~the~~ somewhat spreading the central largest - all more or less ~~greenish~~ ^{greenish} - ~~half the length~~ ^{half the length} glume smooth or minutely scabrous, often longitudinally corrugated. Upper glume more or less clavate - ~~irregular~~ ^{irregular} ~~sinus~~ ^{sinus} - entire or ~~irregularly~~ ^{irregularly} 2 fid - flowers solitary in each spikelet, closely enveloped by the lower glume lower palea equalling the 1st lower glume oblong - 3 fid at apex, 3 ~~head~~ ^{head}, concave & somewhat



centrous divisions to green - ¹⁶ min valve ¹⁷ broad
nervinate - involved by the lower -
stems -

dry ovoid. styles elongate, purple -

Travis of redness antiphrone to a section
of *Conchus*, but the present species seems
generically distinct -

? What are *C. punctulata* & *C. Belangeri* Steud?

Euphyas aliena Spreng; *racemosa* Willd.,

var *E. occidentalis* - Raceme elongate dense
pedunculis bifloris -

E. aliena Spreng; Steud Syn H. Blum 1. p. 112

Euphyas occidentalis Nees in Flor. Brasil. 2, p. 286,

Euphyas racemosa Desf. H. Hartweg p. 28,

with 2 stamens

Raceme 1-3 inches long. dense - pedicels 2-flowered

florets acute but not attenuate at the apex -

The lower ~~stamens~~ mostly neuter, Nuclea of neuter
floret 5 acut. Columnate with bracts from a bulbous
base - the hooked upward - leaves strongly bristly ciliate

Presidio del Norte & Durango into *Euphyas*
Sonora, Thacker; No 2110 Wright, Berlandier
1536 & 3036 - Same land.

Perhaps a species?

11 *Euphyas*

12 —

zh
Presidio del Norte Berlandier

Paspalum distachnum Lessing; Gray. Man. 2
p. 576;

P. notatum Kunze; Trin. panic. p. 53 (teste Gray)
Nelson Schott; San Ildefonso Trin. Bigel; 1820; 3
Wright - (13 & 14 Bigel Munro)

Paspalum caeruleum Michx., Flor. 11/16/41 Gray L.C. 1.
Growth of the leaves. Bigel - (12 & Munro)
(11)

Brickellia sericea Munro. Pasp. sericea Schult.
Paspalum (Helopogon) punctatum Flügge; Trin.
Panic. p. 43; (6 char.)

Helopogon pilosus Trin. Fund Agr. p. 104.

Brickellia punctata Humboldt; Rth. Eur. 1. p. 72,

Nier Leon (Pergas?) Bigel Oct 22/50 - Grunwald

3 Japan col. no 305, 1368 -
Our plant accords with the descriptions above
quoted but we have seen no authentic
specimens. A slender grass about 3 feet high
having 8-10 erect distinct racemes about as long
as the spikes below them. ~~spikelets on very short~~
~~articulate~~ pedicels very short clavate, ^{with} pilose
with hairs as long as the spikelets, which
are articulated ^{with the pedicels} by means of a minute naked
subglanous culms. spikelets filly villous acute
2" long - sterile fl. of 1 pulch ^{white} with the glumes
in family 5 nerved. Hermaph. fl. obtuse. punctate.
lute short mucronate.

Brickellia P. racemosum Nutt in Trans Amer. Phil

McC. R. Ser No 5. p. 145. is the same grass as far as can be judged from an incomplete specimen from Red River - Also in our set of Wrights col of 1849 this and the following species are mixed, under No 741.

(15 Munroe Ground)

Paspalum (*Holopus*) *annulatum* Hiigg; Trin. Panis. p. 42 - & *Viridula* *atenuata* P.B.

~~the axis & rachis pubescent.~~

Eriochloa ? *annulata* Rth. Exon p. 72 -

Sta Cruz Sonora Thurler - No 2087 Wrights - No 791 Col 1849 in part)

River Delta May Emory 1846.

The specimens differ from *Sten E. Indica* ones in having the axis & rachis pubescent & the nerves of the fertile floret somewhat shorter -

Grows in patches or is scattered one of the few grasses found on the river route, (16 Munroe, Th.)

Had not. *Holopus* better be kept as a genus? -

Panicum leucosphaceum HBK. 1. p. 97; Pth
Enum 1. p. 124 & Suppl. p. 93; Trin Panic p. 167
 & Suppl. Enum, Suppl. p. 103?

Brickellia visularis; sacchariflora, & tennis
res aya Bras (Jeste Trin)

Paspalum sericeum Scheele in Levinson XXII. p. 341.

Panicum lachnanthum Jor in Pursh Rep.

Presidio del Norte Parry; Camp Bucke Rock
Creek Brigalow; Barro Ints, Antisail, ^{Sta. Cruz,} Sonora
Thunder; No 810 Wrights col 1849.

We refer the ^{own} ~~above~~ specimens to P. leucosphaceum
 HBK. which seems to be a very variable species
 and has been described under other synonyms
 than those quoted above. An specimen agree
 as to the spikelets with a Cuban specimen by
 Humboldt (?) though the panicle is more simple
 & contracted - but in this respect they differ
 greatly among themselves as well as in foliage.
~~Parry's & Wright's specimens have~~ which varies
 greatly in width & pairing, in some quite
 smooth - Our plant is distinguished by the
 keenable silicles of the flowers which is
 brilliant white - becoming ferruginous at an-
 tivity - Branches of the panicle closely appressed
 in the young state spreading when old - Spikelets
 in pairs 1 long & 1 short pedicelled - 2 1/2" 3" long
 (including hairs) lower glume minute smooth, rugul-
 ose, 3-nerved - upper glume 5-nerved attenuate pointed
 5-nerved, or by approximation of the lateral nerves
 apparently 3-nerved, green - hairs springing from the
 marginal nerves - Merchant fl of 1 palea

Similar to sup flume but broader.

Fertile fl - very acute, green brown at maturity
3 nerved, massively pinnatolobate, upper pale
Eggs and sometimes exceeding the lower & terminally
pointed - Ligulae sep coriaceous than usual in
the genus.

†

Pumila dichotoma Lin; Gray Man. Ed. 2. p. 580

No 2085 m. g. h. -

There are two undetermined species of *Pumila*
in the collection which are probably undes-
cribed - but with ~~the~~ our present materials we
prefer to pass over them to making more
species in a genus where they are already
There is ~~such~~ so much doubtling &
confusion.

Panicum (Chinischlon) colonum Swinn; Trin

Panic. p. 124? =

On the Colorado Schott & May Thomas, Jan 1. 1865, ^{no 365, Swinn 2nd ed.}
Rio Grande + Bejlon - no 2088 Wright - 1
^{Slender culm.}
The short solitary & rather distinct racemes
give the plant a different aspect from the
next & the spikelets are somewhat smaller -
(17 mm. all) 1803 Herb

P. Mutleri Muhl Desc #p. 108 & Ell Sk 1. 115,

Panicum (Chinischlon) Cus-Salli Swinn; Trin

Panic. p. 126.

Specimens of this polymorphous grass occur in
all the collections from Texas to California

Panicum (Setaria) italicum Swinn; Trin l.c.

Rio Leon Brazil - 807 Wright

Spike 15 inches long - introduced (18 mm.)
^{caudate fls -}

Panicum (Setaria) viridescens Swinn. Trin l.c.

In all the collections - he includes under this
a great variety of forms, ^{some of} which have probably
recently been considered as species - some have
the spiciform inflorescence as in the common state
of the plant while others are paniculate nearly
to the summit - but as both forms are found

31
Setaria viridis Munroe

- 19 Puerto de Bayam Bigel
20 Barrochito — Antioch
21 2095 Wright
22 Sta Cruz H.

Panicum virgatum

- 23 Rock Creek Big
24 Simpson "
25 " " large specimen
26 Painted Camp "

P. bulbosum?

- 27 2086 Wright
28 Copper Mines H.

P. diuergens

- 29 Frontina Big
30 Rock Cr "

in the same stock we cannot consider this
paniculate one other than the plant in an
abnormal state.

Panicum virgatum Linn; Trin Panie p. 41.

Various localities in Western Texas Bigelow.
we have not received this species from any
station west of the Rio Grande - ~~Here it seems~~
~~to be replaced by the following allied species~~

Panicum bulbosum - HBK. 1.99; Jth Ann 1. p. 99
+ suppl. p. 78?

Copper Mines New Mexico Bigelow; No 2086 Wright.
Our specimens agree with the description except that
the panicle is loose & the fertile flower minutely pinnate
triculate - the conspicuously bulbous root throws out
several strong fibres from near its base.

Panicum capillare Linn; Trin Panie. p. 7203

Leon Springs Texas. Bigelow.

Panicum autumnale Bosc; ~~Jth Ann 1. p. 115;~~

Panicum ducrigens Muhlb. Deser. p. 120. Ell.
No 1. p. 130.

P. autumnale Bosc; Jth Ann 1. p. 115. Gray Man Ed 1. p.
578. (757-444)

Rock Creek & Frontier Tex. Bigelow; No 2082 102

No 289 Grunns 2^d Col.

Grasses with sheaths & spikelets nearly glabrous or
densely pillos pubescent. Grunns specimens are

P. fuscum

31. 2091 Wright

32 383 Dm. 797 W. 2332" Berl. blue

33 2090 + 2091 W. blue.

Plan. *grynetum* Schult?

34 - 348 Dm.

quite Elliotts plant, of which we have ~~one~~
~~original~~ from his collection - Byglows has
the spikelets conspicuously hairy - while there is
Wright one intermediate in this respect.

Panicum fuscum Swartz; Trin Pan. p. 169.

- X P. fuscescens Lam. (fine spec. Spring.)
- X P. fusciculatum Swartz; Jth Enn. 1. p. 94.
- P. reticulatum Torr. in Mearns's Rep. p. 299.
(in part)
- Wright nos 2090 & 2091 (1797 col 1849.) Berland nos
123,902 & 2332 (his). Red River Capt Mearns.
Key West. Blodgett. 383 Drummond 2d Col. Tex.

This is a well marked & widely diffused species
& has been described under several names besides
those quoted above. Trin. l.c. makes varieties
 α & β . founded upon the more or less compound
& spreading inflorescence & ^{pedicels} hairy sheaths - but the
difference in our Eastern Indian specimens is not
sufficient for varieties even. The spikelets are
usually reddish brown with reticulations between
the nodes of the glumes & paleae. P. -reticulatum
Torr. was founded on a slender state of the
plant with stems somewhat decumbent at base
& the reticulations of the glumes & paleae more
than usually conspicuous.

Pottusm

- 35 Sta Army 701 H.
36 2092 Wz.
37 Pan Horner Mills Big
38 Rockler Big
39 Leayuna Colorado Big. Whiff

Panicum obtusum HBK. 1 p. 98; Ph. Rev. Gram.
 2 Feb 116; Ph. Enum. 1 p. 97 + suppl. p. 74; For. in
 Muncy Rep. p. 299.

Sta Cruz Sonora Mexico -
 Western Texas ~~Anglo~~ Mexico Baylors, Wright no 2092
 (no 2091 in our set is in part this & in part the preceding)
 no 790 Col of 1849; Berlandier, no 2470; Drummond, no 371
 2^d Col; Riddle; Dr Edwards; "Rio de Sta Cruz, Monte
 de Ayon" Schott (where? July 20/58) ~~Forests of the~~
 Tex 997.

This species which is a very abundant one
 has a wide range. Dr James collected it in
 the forests of the Mississippi on Long's expedition & we
 have it from Harris in the State of Coa-
 huila. The specimens present a variety of
 forms some with very slender panicles with
 distinct racemes & others with a very much
 crowded inflorescence. Some of our specimens
 agree tolerably with the figure above given
 & we refer the whole as above without
 much doubt.

P. leucophneum

40 Rockler Big

41 Sonora 948 Th.

Panicum undetermined

42 bitolo of the Rio Grande Brazil

43 Sonora 1021 Th.

Boundary Specimen

Ericaceae
 Sph.
 Andromeda

U

U

Eriocoma cuspidata Nutt. Gen. 1. p. 40.

Stipa membranacea, Pursh, Fl. 2. p. 728; Hook. Fl.
Boz. - Am. 2. p. 237.

Stipa hymenoides, W.S.

Milium cuspidatum, Spreng.

Arachne (Eriocoma) lanata Trin. Act. Petrop. 1834. p. 126;
Stend. lyn. Pl. Glum. 1. p. 122.
Stend. l.c. p. 419.

Am 3 inches long

See, Bigelow, Wright (1996 +
Adams' New Mexican collection.

The panicle is less diffuse
than in those collected in
on the ~~Santa~~ Sascatchewan
- The margins of the
leaf silky-ciliate



Stipa thesiensis, Trin & Rupr. Stip. p. 27; Numbers in
Pl. Hartweg. p. 342; Tour. in Whipple's R.R. Survey p.

S. leucotricha Trin & Rupr. l.c.

S. setigera Presl. Rel. Hauke. p. 226; (vide Numbers)

S. asenacea, Hook & Arn. Bot. Beechey, p. 403.

S. ciliata, Scheele in Linnaea 22. p. 342; Stend lyn.
Pl. Glum. 1. p. 127.

Eriocoma cuspidata Nutt. Gen. 1. p. 40.

Stipa membranacea, Pursh, Fl. 2. p. 728; Hook. Fl.
Boer. - Am. 2. p. 237.

Stipa hymenoides, W.S.

Milium cuspidatum, Spreng.

Brachne (Eriocoma) lanata Trin. Act. Petrop. 1834. p. 126;

Trin & Rupr. Stip. p. 19; Steud. Syn. Pl. Glum. 1. p. 122.

Fendleria rynchelytroides, Steud. l.c. p. 419.

Valley of the Rio Grande, Bigelow, Wright (1996 &
Parry. Also no 979 of Fendler's New Mexican collection.

In all our specimens the panicle is less diffuse
and the awn shorter than in those collected in
Oregon by Douglas and on the ~~Santa~~ Sascatchewan
by Drummond, moreover the margins of the
sheaths are more or less silky-ciliate

Stipa neesiana, Trin & Rupr. Stip. p. 27; Munro in
Pl. Hartweg. p. 342; Torr. in Whipple's R.R. Survey. p.

S. leucotricha Trin & Rupr. l.c.

S. setigera Presl. Rel. Hauke. p. 226; (vide Munro)

S. avenacea, Hook & Arn. Bot. Beechey. p. 403.

S. ciliata, Scheele in Savinae 22. p. 342; Steud Syn.

Pl. Glum. 1. p. 127.

Stipa Mesianus

- | | | | |
|----|---|---------------------------|----------|
| 44 | — | Jer. Smith (S. ciliatus) | } stored |
| 45 | — | 263 (1849) Mr. | |
| 46 | — | Wright 1848. — I. S. Drum | |
| 47 | — | San Diego Calif. Pure | |

San Diego California, Parry.

Shasta & Rogue River Valley, Dr Hulse; Benicia California, Bigelow; Sacramento Valley, Hartney (Nov 2028).
Texas, Wright, Drummond & Lindheimer.

The specimens above quoted seem to be all forms of one species sufficiently distinguished from *S. arenacea* by the long & mostly colored glumes. The white hairs of the lower palea and callus, the short upper palea and barbellate anthers.

Leaves
~~Flowers~~ variable in width & pubescence; in the young plant ~~the leaves have~~ ^{with} strongly ciliate margins; nodes glabrous or retrose pubescent; glumes more or less colored, often deep purple; lower palea entirely, or the lower portion only, clothed with white hairs even when mature, the naked portion tuberculose scabrous.

~~The~~ *S. setigera* of Presl. is an older name than the one we have retained and if his plant and *S. mexicana* Trin. be ~~the same~~, as quoted by Munro, ~~should be preferred~~ but as Munro considers ~~them~~ ^{the} same, should be preferred, but the latter ~~author~~ author says of Hartney's plant "verosimiliter varietas *S. bicoloris* Vahl" and as it is not improbable that ours will prove to be that species, we to avoid confusion retain the name adopted in Dr. Hartney

S. viscosa

48 - *Styrene* - glued

S. fimbriata

49 - *Cobra Bigel*

50 - 1997 *glue Wright*

50" — " " *dupl*

S. pennata

51 - *Mulus Th.*

S. regulina ?

52 *United Camp Big -*

53 1999 *Wright glued,*

Stipa or *Oryzopsis* ?

54 2000 *Wright - glued West side,*

55 *Large Stipa Oct 13/53 Big Whip*

Stipa fimbriata HBK. 1. p 103; Kunth, Rev. Gram. t.
Tab. 43; Trin & Rupr. Stip. p. 34.

Wright, no 1997; Copper mines, New Mexico June
& August. Byelow.

A well marked species. The paleae ~~are~~ are quite
black at maturity when the pubescence becomes
brown. The lower palea is mostly glabrous so that
the awn appears eccentrically attached. The
upper palea conspicuously grooved on the back
and produced into a short mostly incurved nerve
which projects beyond the lower palea. The
very nearly allied *S. virescens* HBK. was collected
in the same region by the botanist of Capt.
Sitgreaves' expedition. Both these species ~~resemble~~
have more the habit of *Oryzopsis* than of *Stipa*
though they fall into the latter genus as
limited by Trin & Rupr.

Stipa pennata Lein; Trin. & Rupr. Stip. p. 80.

Var. neo-mexicana ^{smaller &} Leaves smooth. paleae pubescent
throughout. awn shorter & less copiously plumose.

River mouth, New Mexico, Thurber (269); Fendler's
New Mexican Collection No. 18)

Scarcely to be distinguished from ~~Alaskan~~ Alaskan specimens
of *S. pennata* / not before accredited to this continent

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The glumes are somewhat smaller than in the type & the awn (6"-7") shorter, minutely pubescent below the ~~reticulate~~ geniculation, the upper portion plumose with silky hairs, about half as long as in the European forms, which are much shorter towards the apex

Undeveloped specimens of what may prove to be *Stipa hyblaea*, Nees. were collected at Painter's camp by Dr. Bigelow (also in 1999 Wright?)

A. spiciformis

56. San Pedro Bay

A. purpurea

- Mr
B.
- { 57 Rio Leon Bay
58 Presidio de Norte Bay
59 2551 Berkeley
60 1777 Berkeley
- Mr
D.
- { 61 Camp Bushe Bay
62 Zoole Wright
63 2004 "
64 2015 "
65 Rio San Juan Bay
66 - 293 Drummond Island
- Mr
D.
- { 67 a Bullens Drummond
- Mr
E.
- { 68 San Bernardino Is.
69 Copper Mines Bay

Aristida speciformis Ell. Bot. S. Car. 1. p. 141; Trin
+ Rupr. Stip. p. 106.

Head of Rio San Pedro, Texas, Nov. 1850, Bigelow.

Aristida purpurea, Nutt. Trans. Amer. Phil. Soc. 5. p. 145;
Trin & Rupr. Stip. p. 107.

A great number of specimens of, what seem to us, forms of one very variable species occur in the ~~different~~ collections and none of them are of the typical form of Nuttall, of whose original stroke we have specimens. Notwithstanding the diversity in size, the branching of the panicle & length of the awns in the extremes of the varieties mentioned below there seem no good characters to warrant their separation into species and with the very abundant materials before us we feel warranted in reducing many nominal species to varieties of one - which seems to vary largely under the ^{local} influences, of

β. Berlandieri "Radiis contractis, fere sessilibus;
glumis brevissime dentatis" Trin & Rupr. l.c.

Texas & New Mexico. River Leone Oct 23^d 1850. &
Presidio del Norte (a scarious form) July 1852, Bigelow;
No 2005 Wright (8743 col of 1849)

These agree with No 1777 of Berlandieri's collection,
cited by Trin & Rupr l.c. ^{Berlandieri} Annulus 457. 949. 2379
& 2551 of ~~Berlandieri~~ are the same as is No 136
of Lindheimer's collection of 1846.

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Var γ Hookeri. "Robustior, saepe bipedalis; verticillis
androthorum remotioribus; glumae apice integris vel
vixime denticulatis" Trin & Rupr l.c.

Fages. on the Simpson & at Camp Bushe, Bigel-
ow; Wright nos 2003, 2004, 2006 & (?) 2015.

In some of these specimens the inflorescence
is more crowded & the awns shorter than in
Drummonds no 293. quote by Trin. Rupr.

Var δ Muttallii. Culm short (8"-10") branches of
panicle 2-3 nate. the lower flexuose & spreading
the upper short & appressed. upper glume exceed-
ing the palea. awns 3-3 1/2" long.

A. pallens Mutt. gen. 1. p. 57. (non *Car. nec Pursh*
which is *A. oligantha* Michx.)

A. longicoma, Steud. Syn. Glum. 1. p. 420.

On the Platte, Fremont, 1842; Fendler's New Mexican
collection no 978 - also collected in McCollets &
Marcy's Expeditions. Very distinct from the
South American *A. pallens* of *Car.* which has
the lower glume 1/3 shorter than the palea & ap-
proachingly slender awns 7-8 inches long.

Var ϵ . Fendleri. Culm 4"-8". branches of panicle
short, erect & mostly 1 flowered.

A. Fendleriana Steud l.c.

New Mexico. Fendler no 973; Ora Miners, Cooke's
Spring & Copper Mines, Bigelow; Anson, Thurston (1718)

- A. Scheideana* aff
 70 Colre Bigel
 71 Laguna Colorado Bay White

- A. Scheideana*
 72 Cooks Spring Bay
 73 - Colre - fl. Erythroid Bigel

- A. refracta* ?
 74 - Bay Wharf
undetermined
 75 - Tulare Valley Blake Hert.

- A. dispersa* ?
 76 Fort Yuma Mrs Thomas

- A. Californica*
 77 Colorado sent Schott Hert.

In all these varieties the upper pullea
 differs as to roughness, in some specimens it
 is quite glabrous except near the apex & in
 others it is strongly & even tuberculate scabrous
 in lines throughout. The name purpurea
 is not well chosen as the flowers are as
 often green or straw color as ^{they are} purple.

Arista Scheideana, Trin & Rupr. Stip. p. 120.

Cooks Spring: New Mexico, Nov. 1851, Bigelow; Wright
 Nos 2009 - 2010 - 2011 & No 745 col of 1848.

The older specimens accord with ~~Trin~~. The char-
 acter of Trin & Rupr. In the young plant the
 sheaths are hairy at the throat & sometimes bear
 a pilose zone at the junction with the lamina.
 The long branches of the panicle are strongly
 compressed with the edges roughened upwards, the
 lower ones sometimes 2 inches long erect, spreading or
 even refracted, somewhat swollen at the node
 junction with the axis. Lower pullea purple, marked
 with black spots, attenuate above into a twisted
 inarticulate scabrous style 6"-7" long terminated
 by 3 very unequal ams, the central of which
 is about 5" long & slightly divaricate, the lateral
 1/2 a line long & erect. In some specimens
 the lateral ams are scarcely perceptible without
 the aid of a glass. Callus bearded with con-
 spicuous white hairs.

Aristida dispersa, Trin. & Rupr. l.c. p. 129

Var. ?

Baja California, Parry & Schott, Wright no. 2001 & 740 col.
of 1849.

Doubtfully referred to the above of which we
have seen no authentic specimens.

7.

Aristida Californica, sp. nov. (~~is distinctum~~)

Culms caespitose, dwarf, paniculate & fasciculately
branching, densely hirsute pubescent, pilose at the
nodes. Sheaths loose, striate, shorter than the nodes,
slightly pubescent when young, hairy at the
throat. Ligule short, firm white. Radical leaves
1 1/2 inches long, those of the culm 3/4 - 1 inch in
length, convolute filiform, ligulate, hairy.
Panicles about 1 1/2 inches long, about 6 flowered,
the lower flowers, in pairs (sepals, the other shorter
pedicelled, the upper ones solitary). Glumes
very unequal, the lower 1/2 than the upper,
length of the upper which is about 7 lines,
colored, membranaceous, 1 nerve which is densely
scabrous. Lower old somewhat bifid at the apex.
Flower shorter than the lower glume, fusiform upon
a callos long in proportion to the size of the glume
(1 line), conspicuously bearded. Lower pedicel
1 3/4 - 2 lines long muculate & black when old,
slightly scabrous above. Arms united into a twisted,
~~stipe which~~ minutely berymmed stipe which is
about twice the length of the lower pedicel
with which it is articulated and from which

it separates at maturity. Upper petal $\frac{1}{4}$ as long
as the lower, hyaline. Symmetric 2, equalling the
upper petal. Anthers? - Styles? -
Ovaryopsis conjoined to the flower, with a conspic-
uous groove nearly half its length.

River bank. Emory, 1846 (specimens just flowering) Colorado
Desert & around Fort Gunn, the Schott, ("Lacate
de here")

This seems to belong to the section *Arthrasth-*
rum, the only one of the group yet found on
the American continent.

(There seems to be a singular mode of branching
as if the earlier flowers became proliguous & pro-
duced a fascicle of branches)

Among the grapes collected in Capt.
Whipple's RR Survey & not determined at
the time of the publication of his report
is

Culm slender, 10 nodes or so,
Sheaths smooth, ^{glabrous except a few hairs at the mouth. little red spots} exceeding the
nodes. Leaves convolute filiform, subrigid, more
of the culm about 3 inches long, smooth. Panicle
erect, loose, axis scabrous, as well as the rays
which are in pairs, united at the junction with
the axis, spreading & all save the uppermost
strongly refracted, one about an inch in length
3-4 flowered, the other half as long, 2 flowered.
The uppermost 1 flowered. Glumes about 4 lines
long. The lower slightly shorter, rough on the
midvein, slightly cuspidate. Upper glume smooth
below & spotted, attenuate, rough & scarcely bearded
above, exceeding or slightly exceeding the upper glume
middle seta 8 lines long the lateral about 4
lines shorter, somewhat divaricate, not
articulate.

A delicate species different from any known
to me, distinguished by the refracted rays of
the panicle.

Aristida refracta (Sp. Nov.) Panicle about 4 inches long, rays in pairs, one short & two flowered the other longer short & flowered, rigid & mostly refracted; glumes subequal, the upper slightly longer acute. Scabrous on the back about equalling the flower which is somewhat attenuate, roughened & scarcely twisted above. Letae (about 8 lines long) subequal. divaricate.

Camp 51. Sept 23-1853. Bigelow in Whipple's Exped.

Culm slender, 6 inches to a foot in length, glabrous. Sheaths smooth ^{equalling or slightly exceeding the} ^{glumes except a few thin at the mouth. Upper red, shorter} nodes. Leaves convolute filiform, subrigid, those of the culm about 3 inches long, smooth. Panicle exserted, loose, axis scabrous, as well as the rays which are in pairs, united at the junction with the axis. spreading & all save the uppermost strongly refracted, one about an inch in length 3-4 flowered, the other half as long, 2 flowered. The uppermost 1 flowered. Glumes about 4 lines long. The lower slightly shorter, rough on the midnerves, slightly cuspidate. Upper glume smooth below & spotted, attenuate, rough & scarcely twisted above, equalling or slightly exceeding the upper glume middle leta 8 lines long the lateral about a line shorter, somewhat divaricate, not attenuate.

a delicate species. different from any known to me, distinguished by the refracted rays of the panicle.

Boundary Stipacae

(First Draft?)

pages 39-45.

10.

728; Hook. Fl. Bor.-Am.

1. Petrop. 1834. p. 126; Trin

.. 1. p. 122.

ind. ~~Sp~~ L.C. p. 429.

right (1996) & Parry.

ale is left diffuse
 here collected by
 the Saskatchewan,
 uneven more

by character which
 certainly the diffuse
 all along of the
 this sufficiently

1842)
 p. 27; Munro in

54, (vide Munro)

Trin & Rupr L.C. p. 28.

342; Steud Syn. Sem. p. 127.

If Hartweg's plant be really *S. nemorosus* Trin. then the
 synonymy is correct. *S. leucotrichus* Trin & Rupr. is founded
 upon a specimen from Hooker (in all probability no 5 of
 Drummond) *S. ciliata* Scheele. is evidently described from
 a young state = *cinereus* specimens. Other specimens
 show the same ciliate hairs. — But Presl's *S. setigerum*
 is the oldest name & if this view be correct should
 be adopted. if the whole be not *S. bicolor* Vahl.

Stipaceae

Ericoma cuspidata Nutt. Gen. 1. p. 40.

Stipa membranacea, Pursh, Fl. 2. p. 728; Hook. Fl. Bor.-Am. 2, p. 237.

S. hyemoides B.S.

Milium cuspidatum Spreng.

Arachne (& Ericoma) lunatus Trin. Act. Botrop. 1834. p. 126; Trin

& Rupr. Stip. p. 19; Steud. Syn. Pl. Germ. 1. p. 122.

Fendleria ~~arguta~~ rhynchelytroides Steud. Syn. C.C. p. 429.

Valley of the Rio Grande Bigelow, Wright (1996) & Parry.
(Fendler, New Mex. Col. no 979).

In all the specimens the panicle is less diffuse and the awn shorter than in those collected by Douglas in Oregon & Drummond in the Saskatchewan. The margin of the sheaths are moreover more or less silky ciliate.

{ If the twisted awn be the only character which separates Stipa & Oryzopsis, then certainly the diffuse panicle, pointed glumes, remarkable alar rep. of the palea & other characters make this sufficiently distinct from Oryzopsis.

Stipa hesiana Trin & Rupr. Stip. p. 27; ⁽¹⁸⁴²⁾ Munro in R. Hartweg p. Jon. in Whipple's Rep p. (file Munro)

S. leucotricha Trin & Rupr. C.C. p. 54, ⁽¹⁸⁸⁰⁾

S. setigera Presl. Rel. Hartweg. p. 226; Trin & Rupr. C.C. p. 28.

2 { S. ciliata Steud. in Linnaea 22. p. 342; Steud. Syn. Pl. Germ. 1. p. 127.

1 { S. arenacea, Hook. & Arn. Bot. Beech. p. 403.

{ If Hartweg's plant be really S. hesiana Trin. then the synonymy is correct. S. leucotricha Trin & Rupr. is founded upon a specimen from Hooker (in all probability no 5 of Drummond) & S. ciliata Steud. is evidently described from a young state = bindheimii specimens. Other specimens show the same ciliate hairs. — But Presl's S. setigera is the oldest name & if this view be correct should be adopted. if the whole be not S. bicolor Vahl. ...

Munro in "R. H. Harvey says of Hartweg's species "serotinitas"
varietas *S. bicoloris* Vahl."

Wright, (Cal. of 1848) - California; Shasta & Rogue River
Valley, Dr. Hulse. Bernicia, California Dr. Bigelow,
Sacramento Valley, Hartweg (2028) Thomas, Durand
(1-5) & Lindheimer 1846.

The specimens from the above mentioned collections
seem to be all forms of the same species, distin-
guished from *S. arvensea* by the long & colored

glumes, the white hairs of the ^{lower} palea & callus. The short
upper palea and turbellate anthers.
Terns in width & palea case of foliage. The young plant
has the leaves plane with ciliate margins; nodes
glabrous or retroseely pubescent; glumes more or less
colored; often deep purple; lower palea wholly, or clothed
only below with white hairs, even when old, the naked
portion tuberclose-scaly.

Stipa (sp. nov.)

Panicle loose, rays few flowered. Spikelets small,
glumes nearly equal acuminate short cuspidate,
narrowly serrated. Membranaceous. $1/4$ longer than the
flower. Lower palea concave, villous pubescent
dorsally gibbous; upper palea equalling or slightly
exceeding the lower, strongly grooved on the back, indurated,
acute at the apex. Anthers multiseed. Ovary slender
5-12 lines long, slightly geminate near the middle.

New Mexico Wright, No 1997 (Col. 1857-52) *; Bigelow, at
the copper mines June (a starved state) & Aug; Bigelow
Camp 19 [Zuni Region]

Culm 1-3 feet high, sub geminate below, nodes
glabrous. Sheaths loose smooth, shorter than the
internodes. Leaves flat (sometimes involute) scabrous
on the margin. Most of the culm about 2 inches
in length. Branches of the lax panicle mostly
in pairs, or the lowermost in 2's or 5's, 2-4 flowered
above the middle, minutely scabrous. Glumes
ovate, acuminate, short cuspidate. 3-6 lines in length
the lower & the upper & slightly shorter & serrated. Mem-
branaceous or somewhat herbaceous at base, sometimes
colored with age. Lower palea 2-4 lines long, becoming

indurated and black at maturity when the yellow
pubescence becomes brownish. Mostly gibbous on the
back so that the awn appears unequally inserted.
Upper palea, even in the young state coriaceous & ~~strongly~~
conspicuously grooved when young. The acute & much
incurved apex usually projecting beyond the lower
palea. Callus very short. The hairs scarcely longer
than the pubescence of the palea.

Awn 2-3 times as long as the flower, twisted below & slightly pubescent.

for its whole length, once or twice geniculate,

(This does not seem to agree with any specimens or descriptions to which I have access. appears to be nearest to *S. Richardsonii* Link. but differs in its long & indurated upper palea, its dorsally distended lower palea & in the strongly bearded glumes. - It is very near some species of *Oryzopsis*.)

(?) *Stipa pennata* Link; Trin & Rupr. *Stip* p. 10.

Var. Neo-Mexicana.

nodes glabrous.

Caules about 2 feet high. Leaves ~~serotinate~~ filiform, ~~linear~~ smooth. Sheaths smooth longer than the internodes. Panicle somewhat strict, 5-5 inches long (exclusive of awns) the rays in pairs & two flowered or solitary & one flowered, erect, lower portion of the panicle ~~included~~ by the upper sheath. Glumes about $\frac{3}{4}$ of an inch long, pale green, many nerved, attenuate into a long setulate awn of about their own length. Paleae equal, the lower pubescent to the apex which is not attenuate but obtuse & acuminate; 5 lines in length. Culms conspicuous 2 lines long, strongly bearded & with the glumes becoming fuscous with age. Awn 6-7 inches long: geniculate, twisted & pubescent. Below the geniculation the upper & longer portion plumose with silky hairs which diminish in length towards the apex.

Near the River mouth New Mexico Thicket
No 269 - also occurs in Fendler New Mexican
collection No (?)

(Wright, Nos. 2003, 2004, 2006(?) & 20015-1851-52); Bigelow
on the Limpia & at Camp Bucke, Texas(?).

This is so near *L. pennata* (in which has not been found on this continent) that I am puzzled what to do with it. It is scarcely to be distinguished from Russian specimens of that species in herb. form. The chief points of difference with the type are the smaller leaves, the smaller & equally pubescent petiole (comp. *Mediterranea* Franchet & similar) minute pubescent crown & shorter and less plumose awn, which is pubescent upon the lower portion. !

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Aristida

Bigelow. no 1846.

near A. spiciformis

Aristida purpurea, Nutt. Trans. Amer. Phil. Soc. 5, (1837)
Trin & Rupr. Stip. p. 107.

A great number of specimens of ~~of~~ this very variable species occur in the collections from different localities & none of them seem to be precisely the typical form of Nuttall. Though the extremes of the varieties mentioned below differ widely in size, in the branching of the panicle & length of awns there seem to be no good characters to ~~have~~ warrant their separation into species. as one might be disposed to do without the very abundant materials in our possession.

^{Berlandieri}
B. ~~Hookeri~~, "Rays contracted almost sepals, glumes short-dentate" Trin & Rupr. l.c.

Texas & New Mexico, Bigelow Oct. 22, 1850 & Berlandier del Norte (a somewhat scabrous form) July 1852. ~~There agree with the Berlandier specimens. no 1777. cited by Trin & Rupr. nos. 457, 949. Wright. 2005, 2006 col. of 1851-52 (& no 743, 1849)~~ There agree with the specimens no 1777 of Berlandier's collection, cited by Trin & Rupr. numbers 457, 949, 2379 & 2551. of Berlandier's collection are the same.

Var. Hookeri, "stouter, verticils of rays more remote, glumes entire or denticulate at the apex." Trin & Rupr. l.c.

(Wright, nos. 2003, 2004, 2006(?) & 20015-1851-52); Bigelow on the Gumpies & at Camp Bucke, Texas(?).

~~*As. pallens* Nutt. *Beetle* p.~~ In some of these specimens
the inflorescence is more crowded & the arms shorter
than in the original specimen from Sumner's
collection, no 293, quoted by Trin & Rupr l.c.

Sm. *A. Nuttallii*, culm short, (exclusive of arms, 8 inches),
branches of panicle in twos & threes, the lower flaps
more spreading, the upper short & appressed, 1-2
flowered, upper glume exceeding the palea. Arms
3-3½ inches in length.

A. pallens, Nutt. *Ann.* 1. p. 57. Not of Cav. nor Pursh (which is *A. oligantha* Michx.)

A. longisetus Steud. *Ag. Num.* 1. p. 420.

On the Platte, Fremont, 1842; Fendler no 978. (New Mexico) (also collected in Murray's Expedition & on the Missouri in Vincell's Expedition) They differ from the South American *A. pallens* Cav. which has the lower glume $1\frac{1}{3}$ longer than the flower & very slender awns 7-8 inches in length.

M. E. Fendleri Culm short. Awns ^{are} short & erect & mostly 1 flowered.

A. Fendleri Steud. *l.c.* p. 420.

New Mexico; Cooke's Spring, Silver Mines & Copper Mines & Bigelow, Sonora, Fendler no 718, Fendler. 973. In some of the specimens from the latter locality the upper glume is shorter than the flower.

In all these varieties the palea is variable as to toughness, in some species it is glabrous except at the apex & in others it is strongly & even papillate. Scabrous in lines for the whole length.

The name purpurea is not well chosen as the glumes are as often green or straw color as they are purple.

Aristida Scheideana Trin & Rupr. *Stip.* p. 120.

Podocnemum stipoides, Cham & Schlecht. in *Linnaea* (non HBK.)

Cooke's Spring, New Mexico, Bigelow Nov. 1854; Wright Nos. 2009 - 2011 (& 745 col. 1848)

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A well marked species the old states of which accord with the description. In the young plant the sheaths are ~~thick~~ at the throat, sometimes with a pilose zone at the junction of the laminae. The long branches of the panicle thickened & when several, united at the junction with the axis. compressed with the edges rounded upwards. The lowest sometimes 8 inches long, erect, spreading or even refracted.

Glumes, purple in the young plant, yellowish with age 5-6 lines long, mutually unequal, awn pointed.

Palen purplish & marked with blackish spots, fringed
by a short callus beaded with very white hairs and attenu-
ate above into a long, twisted, intricate scabrous
stipe 6-7 lines long which bears the very unequal
awns, the middle awn about 5 lines in length
slightly divaricate, the lateral only $\frac{1}{2}$ a line long
and erect, In some specimens the lateral awns
are so very minute as to be scarcely perceived without
the aid of a glass.

Aristida

Hills near the Copper Mines, New Mexico Bigelow, Oct. 23. 1857.
Wright, col. 1851-52, nos 2007-2008-20012, 20013, 20014,
(739-742 col. 1849) Fendler col. 976.

Aristida

A. dispersa?

Brian Glen, Parry, March 1852. + Schott 1858, no 18,
Colorado desert no 20 Schott, - nos 2001 (1851-52) + 710 (1849)
Wright.

The following are ...

Very, var 2, palmar cast. This is the same
of the much larger than the other -
much larger setae - also much larger
& much larger display of the setae. Some
Seymouria sp. -

Varies in color of glaucous red in young
stage - leaves often rough - some glaucous
sometimes almost & very short - the upper
often much exceeding the lower -

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2379
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very near A. pall
glance much larger
than larger setae
& much longer &
seglular symmetrical
varies in color of
style - leaves of
conical blunt &
often much like

Alga
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Lycium

Alseodora

Ylpa

Shorea

Agave

Muhlenbergia

Equisetum

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Lycurus phleoides H. B. K. n. Gen. 1. p. 142. t. 45;
Trin. Agrostid. 1. p. 33.

[Pleopogon setosum (Mitt. R. Ramb. p. 189) (compare spec in Acad)]
Painted Camp. Texas, Nov. 1850; Copper Mines, New
Mexico, Oct 1851. Bigelow. Wright No 750/col.
1849) & 2030 (1852) Collected also at Laguna
Colorado by Dr Bigelow in Whipple's Survey.
The setae of the glumes & paleae very vari-
able, ^{in length,} even in the same specimens.
(78 mm. Bigel)
also.

Alopecurus aristulatus Michx. Fl. 1. p. 43; ~~Gray Man.~~
Hook. Fl. Bor.-Am. 2. p. 233; Gray, Man. Ed 2. p. 541.

Rio Muir New Mexico. Dr Bigelow.

~~Alvim pratensis~~ ~~Gray~~

Vilfa tricholepis Torr. in Whipple Report. p.

Hills near the Copper Mines, New Mexico, Oct. Bigelow;
No 1967 Wright; Collected also by Dr Bigelow in
Whipple's R.R. Survey on Sandia Mts. & by Dr Goodenough
in Kitzmann's Expedition at San Francisco Mt.
(79 Whip - 80 Coler Nurse)

Vilfa utilis, Torr. in Williamson's Rep. p.

From the head of the Pecos & at Piedra Blanca Rep.
Dr. Bigelow. Near Parras, Mexico, Gregg & in Calif-
ornia by Mr Blake. (81 Bigel Piedra Blanca)

For fuller description see page 51.

~~Employed~~ by the Mexicans in stuffing their aparejos
or pack saddles, hence the name given it by Dr. Forey.

V. utilis var? plant much stouter, panicle less expanded,
glumes $2/3$ the length of palea & acute. lower palea
very acute. apex of leaves manifestly ciliate & hispid.
Cooks Spring, New Mexico, Dr. Bigelow, No 1983 Wright.
+ 746 (col 1849) also No 958 Henderson New Mexican
collection. (82 Munroe Cooks Spring Bing)

(See Dr. Forey's Rep. where he has some talk about
this - a different species?)

Vilfa ramulosa HBK, Nov. Sem. 1. p. 137. t. 682; Trin.
Agrostid. 1. p. 83.

Sporobolus ramulosus Kunth. Enum. 1. p. 215 & suppl. p. 172.

Agrostis ramulosa. Steud. Syn. Pl. Glum. 1. p. 171.

Mule Spring, Bigelow & Cooper Rivers, Thurbell
No 1069 - Wright 1982 (+ 788 + 789 col. of 1849)

No 986. Henderson New Mexican collection.

variable in the degree of hairiness of the
spikelets - glumes & palea Sporobolus

(compare with figure in HBK)

Vilfa undetermined

No 1973 Wright. (84 Munroe glend)



Vilfa

The following species was omitted in the
enumeration of the Grapes in Whipple's Report.

Vitis *premissa*

Character from a strongly creeping perennial
rootstock. 6"-10" erect, wing, densely leafy &
branching below. smooth. The lower sheaths
short & crowded, the upper shorter than the
internodes. ligule $\frac{1}{2}$ ". laccate. Leaves 6"-8"
long serrate - convolute, rigid & recurved, mucro-
nulate at apex. Petiole long exserted (2" from
upper sheath) $\frac{1}{2}$ " long, ^{green} slender. Branches erect, the
lower in pairs 1-2 flowered. Spikes about 2" long. Stamens delicate, acute
strongly 1 nerved, glabrous $\frac{1}{3}$ shorter than petal.
Lower petal 3 nerved. pistil for half its length
& terminating in a mucronate point. the upper
nearly equalling the lower, very acute, strongly
2 nerved. pistil on the back.

Camp 49 - Plaza de Armas Sept 21. 1853. Bogotà.

Stems branching & very leafy 1-2 miles from the
base. simple above with 1-2 distant leaves.

A puzzling form & ~~perhaps~~ ^{perhaps} almost as near
Vitis as *Muhlenbergia* as *vitis* - The upper petal
^{mucronate} much as in *V. cuspidata*.

(83 number)

Culm stout 2-4 feet high, smooth -
 Sheaths smooth, ~~stronger~~ than the internodes
 Ligule very minute, ciliate.
 Leaves flat or involute 6"-1 foot long, 2-3 lines
 broad at base attenuate at the tip, scabrous
 on the margins, pilose with a few long hairs
 on the upper surface near the base.

Panicle 8"-1 foot long, rays solitary or several
 irregularly mixed 2'-2 1/2" long, spreading 1/4 naked
 or glabrous to the base, glabrous throughout.
 Pedicels shorter than the spikelet.

Spikelet 1 1/4" long brownish, smooth.
 Lower glume about 1/2 the length, the upper 1/3
 to 1/4 shorter or nearly equalling the palea, 1 nerved
 Lower palea acute, strongly 1 nerved, the upper usually
 somewhat longer, 2 nerved - often splitting.
 Seed brown, the coating very delicate & not very
 readily separating.

No 1979 + 1976 Wright; Cooke Spring, Bayelow,
 ("Presidio del Norte", Parry; "Rio Brass del Norte" Schott
 & "Cienega Grande" Gregg are probably ~~the~~ young
 states of the same.)
 To be compared with *C. schiedeanum* Trin

This belongs to *Spor. cryptandrus*, var. *glaberr* - page 52.

Culm 8 inches to a foot in height. (perennial?)
branching for its whole length, glabrous except a
minute pubescence at the nodes.

Sheaths loose, smooth, mostly shorter than the internodes
Ligule minute lacerate.

Leaves, the old ones about 2 inches long, 1 line wide
scabrous on the upper surface & margins, connate.

Panicle slender 1-1 1/2 inches long, apex & pedicels scabrous,
branching below, branches erect. The lower 5-6 flowered, the
upper 1-2 flowered. The upper leaf often equalling the panicle.

Spikelets 1/2 lines long, glumes 1 line long - some
what carinate, rough on the midvein ^{very acute, & even microneurates.}

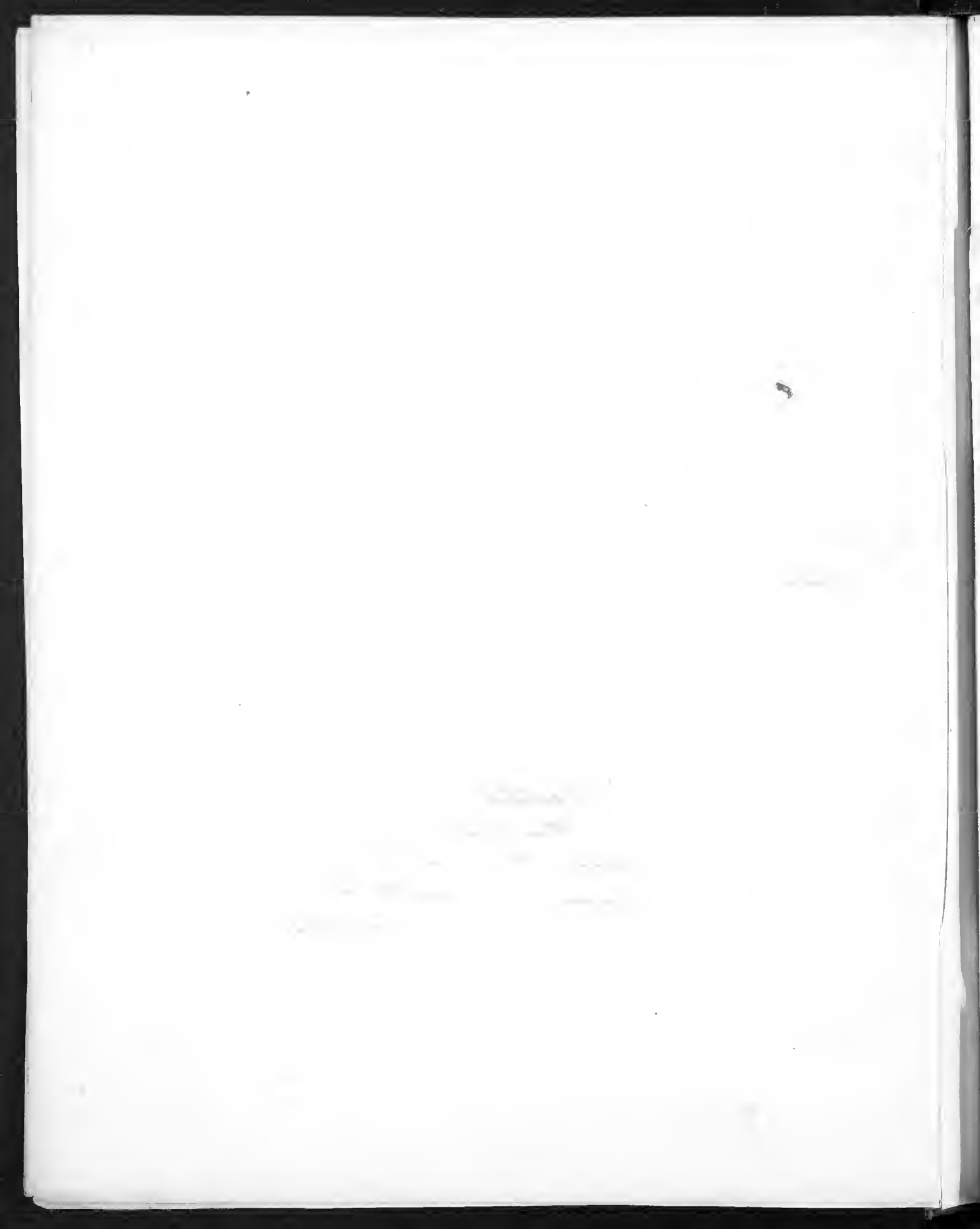
Inferior palea 1/2 lines long, 3 nerved, rough on
the ~~back~~ & at the apex. Superior palea some-
what shorter 2 nerved & scabrous on the back.

Grain amorphous -

Cooks Spring, Bigelow - Wright no 746, (1849) & 1983
(1857-52) Fendler New Mexico, no 958.

Resembles somewhat *V. utilis*, but much shorter.
stem branching from the apices of the persistent leaves
of the previous year, distinguished by its less erect
panicle, rougher leaves & acute & roughened paleae.
The glumes are also shorter in proportion to the
paleae.

This belongs to the *V. utilis* - for 42



Sporobolus cryptandrus Gray. Man. Ed. 2. p. 542; Torr
in Williamson's Rep. p.

Agrostis cryptandrus Torr. in Ann. Lye. Nat. Hist. N.Y. 1. p. 151.
Vilfa cryptandra Trin. Agrost. 1. p. 49; Torr. Fl. N.Y. 2. p. 440
V. Trinacris Steud. Syn. Glum. 1. p. 156 (?)

Jos. Wright. nos. 1977 & nos 357 & 941 undisturbed
all the specimens of this plant that I have seen
except the original one of Dr James' collection have
the apex of the panicle glaucous.

~~"The foliis angustioribus panicula exserta etc Torr in William's Rep."~~
Sporobolus cryptandrus ^{no flexuosus} ~~no flexuosus~~ panicle elongate
flexuose - rays short, spreading, few flowered -

Rio Grande Valley, Nov. 5 Bigelow; No 1978 Wright
& No 725 col 1849 -

The slender panicle about 1 foot long, rays
distinct, spreading or recurved, pedicels elongate,
flowers ^{number} as in the type.

⊕

Sporobolus airoides Torr. in Wright's Rep. p. 300.
Agrostis airoides Torr. in Ann. Lye. Nat. Hist. 1. p. 151.

Rio Grande Valley Nov. 5, 51. Bigelow; Wright Nos
1975 & 1977 -

⊙ (Sporobolus cryptandrus.) see page 50.

The glutinosus, 2-4" smooth, leaves flat or
involute 1/2-1' long. 2-3 lines broad at base
attenuate at the apex. Panicle 8"-1' long
upper glume mostly shorter than the pedicel
which the upper is usually somewhat the
longest, utricle very delicate & ~~not readily~~
separating from the brownish
seed -

Crooks Spring Bigelow, Nos 1979 & 1976

Wright -
Possibly a distinct species. Specimens in a
very young state of what appear to be the
same now collected on the Rio Grande by
Barry & Schott.

Sporobolus ramulosus Rth. Man. 1. p. 215 & Suppl. p. 172
Vilfa ramulosa. HBK. 1. p. 137. t. 684; Trin Agrost. 1. p. 83
Agrostis minutifolia, Steud. Fl. Glum. 1. p. 171.

Mule Spring New Mexico Bigelow; Copper Mines N.M.
Shurley (no 1069) Wright no 1982 (1973?) also
Nos 788 & 789 col of 1849. Fendler's New Mexican
collection No 786.

Some of our spe - it is - and the
figure above quote. Do you know this? I have
~~smooth or cul~~ we not worked at it - have no
or conspicuously a specimen of my own
possibly belong to

⊕ Utricle extremely
from the seed.

Herb. Torr.

Sporobolus ramulosus. 14
var glumis non mucronatis pilosis

Sporobolus cryptandrus Gray, Man. Ed. 2, p. 542; Torr
in Millimons Rep. p.

Agrostis cryptandrus Torr. in Ann. Lye. Nat. Hist. N.Y. 1, p. 151.
Vilfa cryptandra Trin. Agrost. 1, p. 49; Torr. Fl. N.Y. 2, p. 440
V. Triniana Steud. Syn. Glum. 1, p. 156 (?)

Specs Wright, nos. 1977 & nos 357 & 941 undisturbed
all the specimens of this plant that I have seen
except the original one of Dr James' collection have
the apex of the panicle glabrous.

~~"The foliis angustioribus panicula exserta etc Torr in Whip Rep~~
Sporobolus cryptandrus ^{in flexuosus} ~~in flexuosus~~ panicle elongate
flexuose - Rays short, spreading, few flowered -

Rio Grande Valley, Nov. 5 Bigelow; No 1978 Wright
& No 725 col 1849 -

The slender panicle about 1 foot long, rays
distant, spreading or recurved, pedicels elongate,
flowers ^{number} as in the type.

⊕

Sporobolus airoides Torr. in Mancys Rep. p. 300.

Agrostis airoides Torr. in Ann. Lye. Nat. Hist. 1, p. 151.

Rio Grande Valley Nov. 5, 51. Bigelow; Wright Nos
1975 & 1977 -

⊙ (*Sporobolus cryptandrus*.)

See page 50.

In elution, 2-4" smooth, leaves flat or
involute $\frac{1}{2}$ -1" long. 2-3 lines broad at base
attenuate at the apex. Panicle 8"-1' long

Upper glume mostly shorter than the palea
which the upper is usually somewhat the
longest. Ntricle very delicate & ~~not~~ readily
separating from the brownish
seed -

Crooks Spring Bigelow, Nos 1979 & 1976

Wright -
Possibly a distinct species. Specimen in a
very young state of what appear to be the
same was collected on the Rio Grande by
Parry & Schott.

Sporobolus ramulosus Pth. Enum. 1, p. 215 & Suppl. p. 72

Vilfa ramulosa. HBK. 1, p. 137. t. 684; Trin Agrost. 1, p. 83.

Agrostis minutifolia, Steud. Fl. Glum. 1, p. 171.

Ames Spring New Mexico Bigelow; Copper Mines N.M.
Shurter (No 1069) Wright No 1982 (& 1973?) also
Nos 788 & 789 col of 1849. Fendler's New Mexican
collection No 786.

Some of our specimens quite agree with the
figure above quoted ⊕ varies with the glumes
~~smooth or~~ subulate or truncate - smooth
or conspicuously ciliate - Wrights 1973 may
possibly belong to a different species.

⊕ Ntricle extremely delicate & slowly separating
from the seed.

Sporobolus

85- 1976 Wright glued

86. *ramulosus* Thunberg

87. *St* Cooks Spring Bigel Glued

88. " Upper Republic Bigel

89. *Communitatus* - Bigel Glued

90. " Th -

91. 1980 Wright glued

Sporobolus commutatus Rth. Enum. 1. p. 214.

Vilfa commutatus Trin. Sc. t. 10. & Agrostis 1. p. 38.

Vilfa Roxburghii Nees.

Sonora, Thurber no 1045"; ~~Wright 1972?~~ Plains
between the Barrero Mts, Bigelow; Wright 1972?

Our specimens agree perfectly with those of
Vilfa Roxburghii Nees. of Wright's East Indian
collection as well as with the unsatisfactory
figure of Trin. It has not been previously
noticed as belonging to the American Continent
(Wright no 1972, is probably an undeveloped state
of the same)

Sporobolus (sp. undetermined)

1968 Wright. —

Rio Grande, Bigelow; 1974 & 1980 Wright —

Cook's Spring, Bigelow; 1979 & 1976 Wright, Perry, Schult & Frey
= Sporobolus ...

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Agrostis verticillata ~~Willd.~~ Vill; Trin. Sc. Gram. t. 36.
+ Agrostis. 2. p. 112.

A. dulcis Willd; Benth Fl. Hartweg p. 28

Common throughout Texas & Northern Mexico.
Rios Fronteras, Sonora, Thurber. No 358; San Jacinto
& in the valley of the Gila, Schott; Nos 1984 &
1985 Wright; San Juan de la Virgen, State of
Coahuila, Gray - also collected by Dr. Lindheimer
in Texas. (92 Moore H)

Agrostis sparuta, Trin. Gram. Univ. & Lesquif. 1. p. 207; L.
Gram. t. 27 + Agrostidene 2. p. 87; Hook. Fl. Bor.-Am.
2. p. 239.

At the Copper Mines & on the River Minillas,
New Mexico, Bigelow; Nos 1969 & 1970 Wright;
No 962 Fendler New Mexican Col.

The specimens vary in the relative length of glumes &
palea, the size of the upper palea & in the
width & length of the leaves. Those collected
by Dr. Bigelow at the copper mines have leaves
3-4 lines broad, & in this respect agree with the
original plant from Malascha, communicated
to Herb. Tor. by Trin. Others have narrow
leaves & nearly obsolete upper palea and is the
state noticed by Hooker l.c. as var. β . None
of our specimens have awns.

93 Moore Col. } Bigel
94 " Minillas }

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Agrostis scalaris Willd.

A. longiflora Richards.

A. Michauxii Trin.

at the copper mines, Bydgosz; No 1971. Wright;
El Podrero July 1855 (where?) Schott; also nos. 3334
1603 Berlundia's Collection.

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M. calumnyensis ¹eden

- Glued { 101 - 1985 Wright
102 731 (49) Wright & McBurnellman Bay
103 Mexico Parkensis

M. japonica

- 104 Head of San Pedro Bay
105 Alois near Concho "
106 734 Wright 1899
107 Rio S. near Hubbard "
"

M. gracilior ~~eden~~ ¹eden

- 108 Whip-Bay
"
"

Muhlenbergia gracilis Trin. Gram. Univ. & Descript. p. 1938

Agrost. 2, p. 36.

Podosaemum gracile & quadridentatum HBK. Tab.
682 & 683.

[Calycodon montanum, Nutt. Pl. Samb. p. 186.]

No 1991 Wright. Collected also ^{by} Sityrean's expedition
in the Zuni region & in the Sandia Mts. by
Dr Bigelow on Capt. Whipple's survey.

spikelets mostly blackish. The upper glume
variously one to 3 toothed. {Cornell Herb.}
(100 near Big Whip) {Phil Acad.}

Muhlenbergia longiseta Benth. Pl. Hartweg.

Muhlenbergia culam-agrostiden Rth. Enum. 1, p. 199.

M. longiseta Benth. Pl. Hartweg, p. 28 (fide Munro Pl. Hartweg
p 347)

Wright no 1989 + A31987 - What are probably forms
of this species were collected at Mt. Carmel Cañon
by Dr Parry & in Texas & New Mexico by Dr. Bigelow
look at the no. 2 line ib. (1985)

Muhlenbergia Texana, sp. nov.



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(M. Texana)

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culms geniculate, slender, branching above, decumbent
at base ~~of~~ or for the whole length, about 1 foot long,
glabrous or slightly roughened, nodes smooth,
sheaths loose, mostly shorter than internode, mostly
smooth. ligule about $\frac{1}{2}$ " long. acute, decurrent.

Leaves plane, $\frac{1}{4}$ " broad at base. setaceous acuminate.
 $1\frac{1}{2}$ " - $1\frac{1}{2}$ " long. scabrous especially above.

Panicle ovoid, included at base, about 3" long.

(green or dark red) rays in pair ± 2 " broad - open.

rays $\frac{1}{2}$ " in pairs or solitary, irregularly inserted.
 $\frac{1}{3}$ - $\frac{1}{2}$ naked below. branches 1-3 flowered - pedicels

equalling or twice as long as spikelets.

spikelets $\frac{1}{2}$ ". glumes $\frac{1}{3}$ - $\frac{1}{2}$ shorter than or equalling
the paleae. narrowly lanceolate - ^{sturdy} - ~~scabrously~~ ~~sturdy~~

1 nerved. setaceous-mucronate, upper slightly longer.

scabrous on nerve -
~~lower~~ paleae fraying. the lower entire at the apex

+ terminating in a ~~seta~~ about $\frac{1}{4}$ " | the upper

2 nerved equalling or mostly exceeding the lower,
very acute. callus conspicuous, glabrous.

stems 3
Rio Grande & Rio Coahuila Bigelow. Prendis del
North Perry, 1995 Wright & 20734 (1849)

Muhlenbergia distichophylla Rth. Enum. 1. p. 2026?
Trin. Agrostid. 2. p. 42.

Copper Mines New Mexico. Bigelow, Wright 1990, 1994
 (+ 730-1849)

A robust species with remarkably carinate sheaths
 2 Bigelovian specimens the paleae are mostly
 awnless while a few in the same spike bear
 long awns. (109 Munro = 1990 Ws)
 110 Colre Brazil

Opicampe gracilis Presl. Rel Haenke?

Brown Leon Texas. Bigelow; Fredericksburg Texas
 (111 Munro Th)
 Thurber No 58 -

[not sure about the genus. compare Brinkley &
 consult Gray]

Muhl. undetermined

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|-------|------------------------|---|
| | Colre Oct 21 Brazil | |
| 112 - | Painted Caves | " |
| 113 | Colre Oct 23/57 | " |
| 114 | Painted Camp | " |
| 115 - | 2082 Wrights Hartford | |
| 116 | 1656 Bonilla agrostid? | |
| 117 | | |

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Mexican Boundary Grapes —

Arundinaceae

Pappophoraceae

Chlorideae

Sporobolaceae

Panicum

Lycopodium

Tridactylon

Paraglossa

Chlorophora

Cyperus

Scirpus

Eleocharis

Microglossa

Cymbopogon

Bambusa

Arundo

Banks of Escondido near Eagle Pap. Kpt 24/52
 Bridlow-

Upper leaves 1" long $1\frac{1}{4}$ " wide at base, smooth
 below, slightly roughened above. Ligule 1/2
 line long, ciliate. Panicle elongated - 2
 long 3-4" wide. Branches $\pm 10'$ erect, scabrous.
 Spiculae 6" - pale straw color. ~~Smooth~~ & shining
 about 4 flowered. Glumes nearly equal, 3 nerved
 smooth except on the veins somewhat longest & acum-
 inate. The upper somewhat longer & acum-
 inate pointed & about equalling the florets.
 flowers: except the uppermost perfect. Lower
 palea hyaline strongly 3 nerved, attenuate &
 bifid at the apex. The midrib prolonged into
 a short seta, clothed below with copious white
 hairs nearly its own length, curved at the
 base & partially inclining the upper palea
 which is about half as long as the lower.
 Near white, ~~the~~ pubescent ciliate on the veins
 truncate at the apex & somewhat denticulate
 Spermium 2 (?) fleshy. Styles 2 - stigmas purple
 plumose with simple denticulate hairs.

No note is made of the height of the plant
 - It is compared with A. Donay -
 Very like Donay Cupensis here.

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Phragmites communis Trin

Arundo Phragmites Lin. et auct.

Along water courses throughout the country
specimens occur in all the collections.

Pappophorum locale Ledeb.; Stend Syn Gram p 200
For. in Whip. Rep. p. 155.

P. phleoidesurez.

Between the San Pedro & Round Spring Texas.
 Comanche ~~Spring~~ Canyon Perry - Riv
 Bigelow - (Mt. Carmel Canyon Perry - Riv
 Grande Schott - No 2029 Wright - (+ No 751
 col of 1849) Chihuahua Mexico (Thurber No 825,
 — Collected also on the Plains Estacado
 by Dr Bigelow in Whipple R.R. Survey, 15 miles
 One specimen vary from 3 ~~inches~~ to ~~feet~~
 in height, culms in the lower specimens
 branching - Spike lead color - (119 mmoe)

Pappophorum micromulatum Des in Flor Brasil p 412?
 Near the mouth of the Rio Negro. Dr Bigelow;
 Wright No. 803 col of 1849. Collected also by Dr
 Centsell in Western Texas.
 We are doubtful if ours in the plant de-
 scribed by Des but in the ~~absence~~ of com-
 fusion which exists in this genus we refer it
 near ~~provisionally~~ rather than to multiply
 names - ~~Our plant differs from Des description in being~~
 a simple culm - 1 1/2' - 3' high. spike about
 6" - 8" long - glumes 1 nerved shorter than the
 florets & mostly minutely bifid & micromulata

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florets 4. the 1 or 2 lowermost perfect the
others tuberculate. Lower palea coriaceous with
7 setae & 6 lacineae which are longer than
the palea. Nerves 7 continuous with the setae.
usually
pilous on the back & merging below with
white hairs. Upper palea longer than the
lower strongly beaurinate attenuate & sometimes
bifid at the apex. ~~style~~ stigmas purplish
with long rough simple hairs. S. spikes
purplish (120 mmvce)

Cottetia pupphoroides Rth. ~~Bot~~ Gram. 1. tab. 52. Brum.
1. p 256 & Suppl. p 200.

Ojo Saliente between El Yaso & Chuburabun
Thurber; no 2057 Wright.

This remarkable grass does not seem to have
been before noticed as a native of North America.
The original specimens were from Peru.
The stems are about 2 feet high bearing a
large panicle & the plant at first has much
the aspect of a large flowered *Eragrostis*.
The glumes are many nerved & 6 flowered.
The lower palea ^{very broad} about 5 fid with 9-11 aristae
three of which are longer than the others &
palea & awns mostly purple. Seed free
in the pericarp. The excellent descriptions &
the details of the figure above quoted leave
nothing to be desired. our specimens perfectly
agree with them - (121 mmvce)

Andromeda

Inflorescence panicled, panicle ovoid dense
 peduncle 4 flowered the 2 lower nodes. The 3rd perfect
 uppermost rudimentary long pedicelled, glumes hyaline
 membranaceous, ovate, 4 nerved, nearly equalling
 the florets. Presence of lower florets coriaceous below
 bifid, 3 nerved the central nerved prolonged into a
 plumose seta as long as the lacinae. The other
 marginal & extending into a anther. The lower half
 on the back & the whole margin pericarpious pilose.
 Upper palea delicate, elongate, bifid, setate flower
 minutely pedicelled, ovoid compressed smooth & shining
 on the back, ciliate on the margin 3 nerved
 & terminate in 3 densely plumose spreading lacinae
 as long as the palea - upper palea truncate
 longer than the lower, ciliate & bifid at the
 apex, smooth except on the nerves, involving the
 calyptra which is free, attenuate at the base slightly
 wrinkled with a scutellum half its length, squam
 blue? - stamens - ? styles 2, elongate - rudiment
 upon a pedicel as long as the fertile palea
 consisting of 3 plumose lacinae -
 a perianth group 4-8' with indurated fasciculate
 branching stems leaves crowded below the branches
 bearing 2 or 3 involucreal leaves with loose sheaths
 near the summit - convolute subulate, rigid.
 mostly recurved, terminated by a conspicuous micro

Culm & leaves pale cinerous green puber-
ulent - upper sheaths loose striated purplish
ligule minute, pilose spikes shining white, glumes
sometimes tinged with purplish

Frontenac Legum. Brizilow & Barry
No 2028 Wright.

(122 number)

Ptilo. colum.

Chloris

- 124 C. alta Whips Bay
 125 C. verticillata Murray
 126 " " B. aristata Th. s.
 127 " " B. aristata Th. s.
 128 C. (Hypolepigon) Heygii Citolo of Rio R. Bay
 129 " " latifolia 2025 Uruguay West Ind.

Elymus pycnanthus Presl Rel. Haenke 1. p.

295. tab. 42 $\frac{2}{7}$.

Maydallum Sonora Thunb Oct 34 - Presidio del Norte, Bigelow St. Bally 1852 -

Although our plant differs in some respects from that described & figured by Presl we refer it there without much doubt -

A delicate caespitose grass the slender culms of which are often prostrate & rooting at the nodes. Growing up a fascicles of leafy stems - The upper sheaths produce 1-3 tufts which at base are clothed with a hyaline vagin. ~~The underdeveloped sheath~~ as long as the sheath - Spikes 4-6 on each ^{alternate} rachis, mostly secund - upon a very short pilose pedicel - Spikelets 3 - 2 lateral subsessile - upper pedicel - Lateral spikelets 2 fl - lower glume reduced to irregularly truncate very delicate $\frac{1}{4}$ the length of the upper - ~~lower glume~~ ("inferior major" Presl) flowers of the staminate ("hermaphrodite" Presl) upper spikelet with glumes similar to the lateral ones - 3-4 flowered - The lower two hermaphrodite ("ale fertile" Presl) upper reduced & abortive - lower palea of 4 laciniis & 3 anthers - anthers plumose below - the longer than laciniis! about twice as long as Presl figure) seed tapering at base -

Presl places it in *Chloridaceae* but Kunth appends it to *Pappophoraceae* which we think its proper place - The spikes are alternately inserted & become secund by the twisting of the pedicels -

(123 mmv)

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Chloris alba Presl.; Forc in Emorys Rep. p. 153

No 2026 Wright; Crooks Spring A. Mex. Bigelow,
Valley of the Gila (a dwarf form) Schott. Also
No 762 Wrights Col. of 1849.

{ Var Aristata Forc in Whipples Rep. should be
cancelled as ~~that~~ the awns in all our specimens
are nearly twice the length of the palea. }

Chloris alt verticillata Nutt. Var β ? Aristata Forc.
in Popes Report. p. 176.

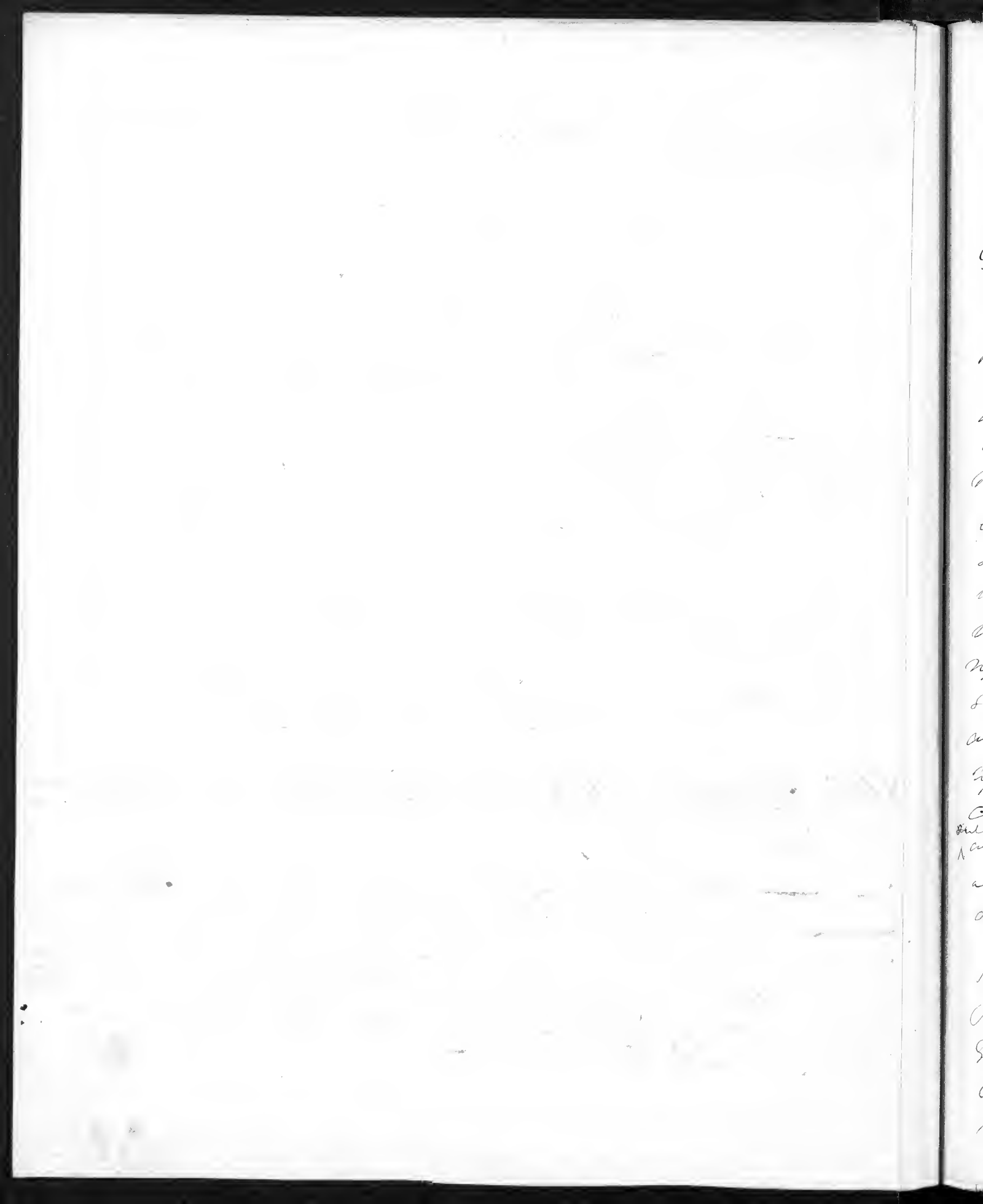
Comanche Springs Bigelow; Eagle Pap Schott, Rio Colorado
Texas Thunberg.

The typical form, which is common in collections
made farther north, does not occur in any
of those of the Boundary. The variety has much
shorter & more densely flowered spikes & awns less
than half the length of the palea.

Chloris elegans HBK. l. t. 149; Rth. Emory. Supp. p. 207

Wright No 2027.

Our ~~fine~~ specimens of this fine species have
~~rather~~ shorter spikes than that figured in HBK.
distinguished at sight from either of the above
named species by its much longer awns & the
copious long white hairs of the margins &
back of the fertile palea



Triplopogon sub. gen. - Chloridis.

Spiculae 2-4 floreae. paleae apice triaristatae.

Chloris (Triplopogon) Greggii. Torr. Mus.

~~Spikes numerous, erect, slender.~~ Culms perennate, compressed at base. mostly smooth, simple. 1-3 feet high. Sheaths loose, scabrous, shorter than the internodes. Ligule short laciniate ciliate. Leaves elongated, flat scabrous on both sides. pubes on the upper surface especially near the base. panicle long celsate. of numerous crowded erect slender spikes about 5" long - spikelets sessile, 2 flowered, the lower hermaph - upper rudimentary. Glumes very unequal, lower minute setaceous acuminate - upper sterile - $\frac{1}{2}$ as long as the florets, bordered scabrous. Ovary + dentate at the apex with an awn its own length - Paleae 2 - subequal - $\frac{1}{2}$ " long - Upper oblong lanceolate, scabrous on the back, minutely ciliate on the margin bearing 3 long slender ^{scabrous} awns 4 times its length. at the apex - Stigmas plumose, seed elongated within a soluble pericarp. Upper floret long pedicelled 3-armed awns equalling those of the perfect fl.

Bolson de Mapaimi, Ciénega Grande & from Rinconada to Monterrey, Gregg; Rocky & gravelly hills at the foot of the Rio Grande Bigelow. Between Tucson & San Xavier, Schott Western Texas, Wright. (No 764 col of 1859)

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Sheaths somewhat carinate compressed.
 leaves 6" to 1 foot long - 3" wide at base, gradually
 acuminate at apex - sometimes conspicuously
 more at base. Culm sheaths near the
 panicle which is composed of 20 or more
 erect crowned spikes - panicle straw-colored.

This & the following species seem to be allied to *Cal-
 crinita* Lag. as from the Philippine Islands - as far
 as can be judged from the very meagre description
 given - which is excluded from by the genus by
 Rott on account of its triaristate lower panicle -
 Our 2 species have quite the habit of *Chloris*
 & notwithstanding the 3 armed panicle we
 prefer to append them to it to multiplying
 genera -

Chloris (Tripsopogon) latifolia

Culms erect simple, glabrous ^{& somewhat compressed} at base - 3-4
feet high smooth -
Lower sheaths of culm, the upper shorter than the
internodes, glabrous except a sparing pilose left at the
throat - lower - ligules a silicle ^{the rounded} ^{downward}
Leaves 8-10 inches long - $\frac{1}{2}$ " wide at base &
tapering to a setaceous point, plane, scabrous on
both surfaces & margins, slightly tuberculate being
at base -

Spikes numerous (10-20) aggregated near the summit of
the culm - sub verticillate - fortigynous. The lower
6" long - imbricately many flowered - rachis narrow -
scabrous -

Spikelets distichous, sessile 4 fl. - 13 head (1 sterile)
upper sterile.

Glumes chartaceous membranaceous - acute, 1 armed
setigerous the upper & outer $\frac{1}{3}$ - $\frac{1}{2}$ longer than the
lower - more armed - dorsally scabrous, covering the
Lower palea chartaceous - oblong lanceolate -
(lower flowers are
decayed -)

3 nerved - lateral nerves marginal - all
occurrent into setae. The lateral $\frac{1}{2}$ - $\frac{2}{3}$ as long
as palea the central 2-3 times its length ^{as scabrous}

Margins ciliate - 3" long - central seta $\frac{1}{4}$ "- $\frac{1}{2}$ "
Upper palea overhanging the lower - entire at the
apex scabrous on the nerves.

Recurrent floret of a single armed palea

Stamens -

Free, oblong inserted with a ² (lower) perianth (extremely
delicate) - styles 2 distinct at base - stigmas purple -

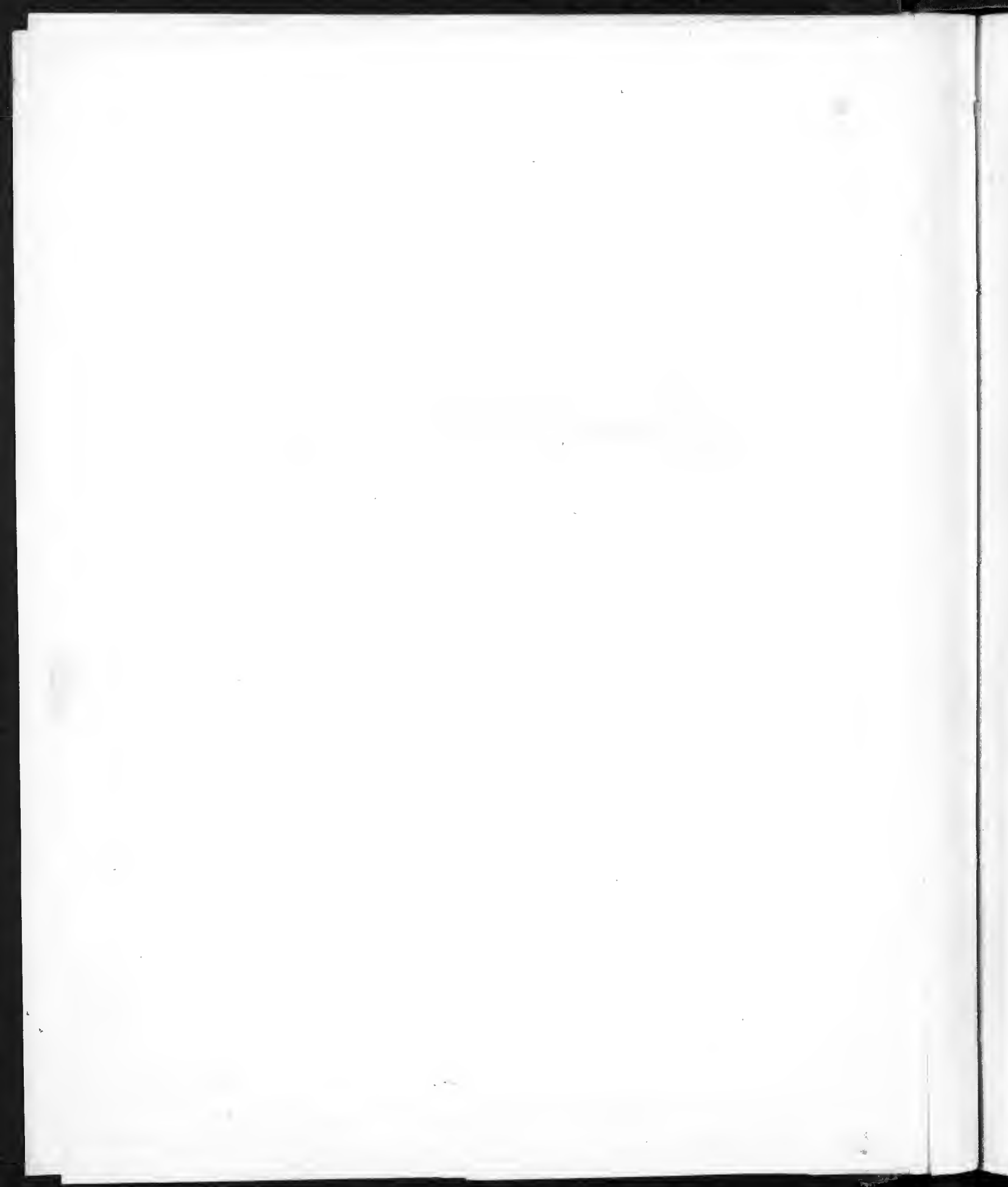
No 2025 Wright - 4763 Col of 1848. also 170 & 1430 But

the inflorescence that of Chloridea

Cynodon Dactylon Pers: Rth. Ann., 1. p. 259.
 + Suppl. 203: Eng. Ann. Ed 2. p. 534 -
 Chocolate Creek. Japan. Thunberg -

(5) 2112

Boulton !



From the meager descriptions of *Laguncula* 78
it is difficult to determine what his species
are. ~~But~~ he puts *B. pincifolia*. ~~among~~ the
doubtful species of *Euterpe* as *E. Laguncula*
+ the restoring of the older generic name of
Laguncula - to the ^{species} ~~thore~~, which have been separ-
ated under *Chondrosia*, *Euterpe* &c creates a
confusion of synonymy which can only
be cleared in a thorough revision of the
genus -



Bouteloua curtipendula Gray. Man. D. 2 p. 583.

B. racemosa Lag.

Eutharipogon splendens Muhl.

Eutharipogon curtipendula Trin; Rth.

Near San Antonio Texas, Verry. On the Lempin
Bogilow.

Trin Aristosia Gray l. c.

Eutharipogon officinis J. D. Hooker (fide Gray)

Lempin, Bogilow.

numerous
a form with 4 to 5 spikes of 1 spikelet each
-palens entire at apex - indurated a solitary an-
was collected at head of Rio San Pedro
by J. Bogilow, but the specimens are too
young to decide upon -

Bouteloua missouriensis Gray; Gray, Man. 2d. 2. p. 553
Chondrosium hirtum HBK. 1. t. 58. Renth
 Gen. 1. p. 277 + Suppl. p. 231.
Atheropogon pupillosum Engelm. in Liebm.
 (when?)

Occurs in all the collections & seems to be
 generally distributed in Texas & New Mexico.
 No 1625 Coulter - 323 Munroe 3rd Col.

Bouteloua oligostachya Torr. in Whipple's Report.
 (When first?) ; Griseb. l. c.

Chondrosium oligostachyum Torr. in Munroe's Report. p.
 300.
Atheropogon oligostachyum Nutt. Gen. 1. p. 78.
 Copper Mines, Dr. Bigelow; No 2023 Wright;
 Also by Dr. Gray in Mexico.

Bouteloua eriopoda Torr. in Whipple's Rep. p. 155.
Chondrosium eriopodum Torr. in Munroe's Rep. p. 152.

near the River Mines and at Presidio del
 Norte, Bigelow, No 797 Wright (what Col.)
 No 2018 + 2019 (5152)
 The culms of this well named species are
 often decumbent & rooting at the nodes.

130 Munroe - Whips Spring
 131 " Presidio Bigel

748 Wright in Hart Engelm
 950 Hart.

Wrights

~~000~~ 749 B3 fitw
752 — "
754 — " "
2020 : " "
(also 2021) " "
2022 have not

Bouteloua trifida sp. nov.

Spikes about 4. ~~Stamens~~ many flowered.
 Spikelets 2 flowered. Glumes very acute upper
 $\frac{1}{3}$ longest minutely bifid & aristate, glabrous!
 2 flowered. lower fl. hemispherical, lower palea
 coriaceous, ~~minutely~~ pubescent! ^{obscurely} 3 nerved
 terminating in 3 awns 3 times its length. Upper
 palea equalling the lower, minutous, imperfect
 flower of 3 aristae, long pedicelled.
 Nos 2020 & 2022 Wright (749 - col 49/3) Rio
 Grande, near Elan Creek, Schott; also Nos 167
 + 1427 Berlandier col.

Perennial, caespitose, culms 5-10" high, puberulent
 sheaths much shorter than the internodes, ligula
 minute fringed, leaves glaucous, long, narrow,
 rough hispid especially on the upper surface
 scabrous on the margins & often pilose ciliate
 especially below with white hairs longer than
 the width of the leaf arising from tubercles
 spikes $\frac{1}{2}$ - 1" long subsepals, spreading or recurved.
 Glumes pale green or purple - lower of fertile
 flower minutely pubescent or ^{equine} pilose (in Berlandier) silky
 pubescent, terminating in 3 long ^{equine} setae without
 any intermediate lacinae. Interscent flower
 of 3 simple, mostly scabrous awns - as long as
 those of the perfect flower -
 132 Mexico 2022 Wright

Bouteloua polystachya Torr. in Millinson's Rep.

p. tab.
Chondrosium polystachyum Benth. Bot. Sulph.
 p. 56; Torr. in Emory's Rep. p. 154.

~~Bureau Mts & Arroyo Cibola of the Rio Grande~~
 Bigelow; Sonora Thurler; Gila Valley, Schott
 Presidio del Norte, Curry - 182021 Aug 18

~~The species has a wide range. Specimens vary~~
 from 2" to nearly a foot in height.

B. forms smaller - cristae of lower portion of its length.
 Arroyo Cibola of the Rio Grande, Bigelow; Sta Fe
 New Sta Fe. New Mexico Dr Edwards. h. S. L.

133 Arroyo Cibola near B. Bigelow

134 Bureau Mts. Bigel

135 Presidio del Norte Curry

136 Sonora Th.

Bouteloua trachanthus

Perennial, caespitose, culms 8"-12" high
 somewhat geminate below, lower
 sheaths smooth - lower glumes, lower
 sheaths smooth somewhat pubescent
 lower - Spikes about 6 common rachis glabrous
 slender, spikes about 6 short pedicelled - pedicels
 partial rachis & glumes hirsute - Spikes 4" long
 but 5 flowered rachis ^{pedicelled} at apex 1 seed
 spikelets 2 fl. - lower gl. lanceolate ^{acute} ^{pointed}
 the length of upper... 3 seed. aristate acuminate
 & rigid on - lower fl. - lower palea 3 seed
 lying on the axis & margins 3 fl. at
 apex both subulate entire, upper squalling
 the lower strongly baccinate, nerves approx-
 imate, acuminate & minutely aristate tips
 at apex - stamens 3 - anthers large filaments
 short - styles shorter with very long slender
 hairs - Neutral gl. pedicelled consisting of
 a very narrow aristate palea & 2 very
 narrow ~~seeds~~ - squalling the fertile fl.

Rock Creek July 1872 & Valley of Death Nov -
 Bigelow - 753 Wright -

Distinguished by its very hairy glumes & its com-
 pressed carinate upper palea
 137 Monroe, Rock Creek Big
 138 ——— Camp of Valley of Death Big

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Bontetona aristoides.

Inetra aristoides H.B.K. + 695.

Eutima aristoides Rth. Enum. 1. p 280 +
Suppl. p. 233.

Borro Ints 1857⁽²⁾ + Arroyo Cebolo Sept 1852⁽¹⁾
Bigelow, No 757 ¹⁴⁹ Wright, + 20 19 Bondy
~~collected~~ - Not given ^{Minj Thorne}.
The curious species having much the
aspect of an undeveloped *Aristida* - our
specimens agree well with the figures
above quoted -

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Bonteloua bromoides Sag. Elend. 5?

Bonteloua bromoides HBK. 1. t. 52; Eutriaena
bromoides Bth gran. 1. 95, Enum. 1. 281 & suppl.
p. 234.

New Zulue, Paraguay; Janos, Chiriquian
Thurber. No 2024, Wright-

An elegant grass, the specimens from Janos
are more than a foot high being from
8-10 thick purple spikes, the bases of
which are an inch long & many flowered -
It is doubtful if this is the plant of
Lagascas B. bromoides - which Kunth doubtfully
quotes as a synonym of Eutriaena repens -
It is however certainly the plant figured in
HBK. 140 Munroe the known!
141 " Zulue, Paraguay.

Bonteloua pinnatifolia

Heterostegia pinnatifolia Dist. HBK. t. 54.
Eutriaena pinnatifolia Bth Enum 1. p. 281 & suppl. p. 234.

Puntas de agua, known Schott-

~~spikes 3 flowered - base narrow~~ Spikes with
2 herm ph fl & a third reduced to a rudimentary
pedicel - Outer pulvin of lower fl - 3 fid
divisions subulate - ^{not} of the 2^d flower deeply 3 fid
central division bifid at apex - all long aristate
the central ~~are~~ longest -

142 Munroe Glend.

The description on page 100 appears
to be later,

Bouteloua polymorpha

Longist
macrochaeta

Perennine, caespitose; culms ascending from a subglobose base, slender, wing - 8-12 inches high (including arms) smooth - sheaths broadest at the base of the culm - upper shorter than internodes smooth. Ligule minute, lacinate - leaves about 1" long, 1/4" wide at base. Ligule tapering to and pungent at apex - pilose ciliate. Spikes about 4, short pedicelled erect, of 1 spikelet each - rachis ^{denticulate, pubescent} prolonged into a 1 seeded glume-like point 2/3 as long as the lower glume.

Spikelets many flowered - 2 hermaphrodite (P) 2 - 4 sterile. Glumes lanceolate acuminate. 3 nerved, scabrous on the mid nerve - entire at the apex. upper 1/2 outer) exceeding the lower floret. Lower fl - cylindrical upon a short dusky villous pedicel enclosing the upper ones - lower pulv. 5-6 times long glabrous. 3 nerved - branching in 3 long subequal setae which are 2" - 3 1/2" long & minutely scabrous. upper pulv. equaling the lower, strongly ^{ciliate on the nerves - margins very old} beaurinately 2 nerved. Nerves excurrent into short setae with a lacinate lobes oray elongated - styles 2 distinct - very long (3/4" -) villous plumose above - stamens? - symmetrical? - second flower on a pedicel 1/3 the length of the lower - similar. upper florets reduced to 3 arms each which equal three of the lower florets - smooth sometimes orbiculate

No 2016 Wright + 747 col of 1849 - Collected also at Laguna Colorado New Mexico (?) by Dr. Bridson in Copts Whipples Dr. R. S. Scurry.

We have described the what we consider the normal & most common form of this polymorphous & puzzling species - It ^{sometimes} sports with the widely, having the spikelets, much elongated & many flowered - with some of the lower flowers staminate. & the pulv. with long short arms while the upper flowers are as described above or the whole spikelet composed of ~~staminate~~ as 20 distant staminate fls with min. ~~staminate~~ or variously armed lower pulv. - It is closely related to B. Multistata (Eutricum) of Nees, from which it differs in its solitary spikelets & much longer setae & ~~Eudicte in his subdivisions of Eutricum proposes to~~ ^{with that} belongs to the subdivision Triplathra Eudict.

143 Nureve Big Whip flued & loose
144 — Puerto de Purpus Big

Aristidopsis (Sub gen Bouteloua)

~~Spikes~~ ~~Many flowered~~. Spikes 1 - many
~~Spikellets, eachis prolonged into a~~ fl 1 - 2 inf
 panicle or raceme. long aristate. The
 upper sterile crown in a ~~very~~ aristate fus
 cicle of numerous long setae.

Bouteloua (Aristidopsis) polymorpha -

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Spikes about 4 - short pedicelled, erect, of 1 spike-
let each - rachis prolonged into a glume like
expansion - Spikellets many flowered, flowers all
masculine or feminine on the lower mass &
the upper few.

♂ Spikellets - 1" long, glumes lanceolate acute,
lower 1 round upper $\frac{1}{3}$ longer 3 round inner racemes
florets distinct, distant, pale membrane
lower 3 round, pilose at base, apic & round on
terminating in 3 arms of variable length,
upper pale somewhat distinct, 2 carinate ciliate hispid
on carina, often 2 fid - arched upwards at base,
stamens 3 - with rudimentary gynoecium.

♀ Spikellets - glumes 3 round, scabrous on the
midrib attenuate & entire at apex - upper
longer than fertile fl - lower $\frac{1}{4}$ shorter
about 5 flowered. 2 lower fl sterile enclosing
each other & the tertiary ones. lower fl
sheath, pale coriaceous with a pilose tuft
at base, 5-6 lines long terminating in 3 subequal
setae 2" - 3" long, upper pale squarish the lower
~~2~~ strongly 2 round & 2 sterile at apex with
ovary cylindrical
styles elongated ($\frac{3}{4}$ ") plumose villos above
Tertiary fl - 2-3 - reduced to 3 arms each -

Culms 8" - 12" high including panicle
~~sheaths from a perennate growth~~

A perennate grass with numerous slender
 culms short rigid & pilose silicate leaves
 forming ~~sheaths~~ erect cylindrical. Spikes
 near the summit.

A polymorphous & puzzling species
 the wholly feminine specimens, which
 are the more common, being very near
Eutrema multisetosus Desv. It differs from
 that in its much longer setae to the
 paleae & its solitary spikelets.

Sometimes the spikes are wholly staminate
 & again with staminate ~~at base~~ below
 with merely bifid paleae which pass into
 long awned paleae, with a fertile fl.
 at the summit of the spikelet.

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Spartina piceiformis Engelm & Gray Al. Smith 1. p. 238
 Schott no 162
 "Common along the Rio Grande"
 Also Berlandier's Col. nos 217. 1477 + 3228.

Pluraphis Jamesii Torr. in Ann. Lya. N.Y. 1. p. 148
 T. 10 + Muncy's Report p. 300; Renth Mun. 1.
 p. 285.

Howard's Springs, Rio Grande Valley & Frontier,
 Texas Bigelow. No 2108 May 1875 Col. (1875)
 also 946 Berlandier's New Mexican Collection.
 cf. Mun. no 306.

145 Bunroe - Frontier Texas, Bigel

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Neuraphis rigida (Lamour)

Culms caespitose erect + branching. woody at base - ~~sparingly~~ lanose - ~~spike sheaths~~ spike sheaths longer than the internodes. woody.
Ligule very short. lanceolate.

Leaves rigid, coriaceous ~~st. lacerous~~ ^{which disintegrates} acuminate
become pubescent when young, ~~glabrous~~ ^{slightly scabrous} with
age - ~~margin smooth~~ ^{upper surface + margin} ~~slightly scabrous~~
~~Spikes~~ ^{Spikes} slightly appressed or imbricated by upper sheath

at base - cylindrical intricately densely flowered
Rachis flexuose - channelled - notched - smooth
spike 3 flowered - situated at the indentations of the
rachis & subtended by a copious tuft of woolly
hairs, 2 lateral ^{spikelets} fl. ~~sterile~~ ^{sterile} central. ~~sterile~~
3 flowered, sterile, central 2 fl. ~~sterile~~

Sterile fl. paleae oblong cuneate, inequivalently
bifid about 5 nerved - the central nerve produced
beyond the laciniate apex of the larger lobe
the lateral nerve next the nerve also prolonged
into a seta. silky pilose on the back above &
on the margins & apex - ann green above the
middle pilose below -

Upper palea 3-5 nerved - laciniate & pilose at
the apex - ann on the back from the lateral
nerve

Sterile fl. paleae ovate - the lower 3 nerved,
somewhat bifid & ciliate at the apex & anned
by the prolonged mid nerve - sup. swollen &
ciliate at apex.

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Leptochloa dentia Des Agrost Brazil. p 433;

Rth. Enum 1. p. 271 Shuffl. p. 224.

Chloris dentia H.B.K. tab. 694.

Head of Rio San Pedro Nov 1850 + Puerto de Payson
Sept 1852. Bigelow; No 767 Wright col
of 1849 -

Distinguished by its loose flowered spikelets. which
have 6-8 florets ~~effluentes~~ + distinctions upon
a grayish greenish - seed oblong. concave
on the inner surface - pericarp loose -

(147) Murrel Puerto de Payson (Bigel)
148 ——— Rock Creek (young state) (Bigel)

Lep trochloa sulcata.

Orchid Swifto

Perennial; culms & sheaths smooth, ^{slightly} down
 2 feet high, terete - nodes purple -
 sheaths loose scabrous above. ~~ligule elongated~~
 lacerate - Leaves 6"-8" long & 2" wide at base.
 Setaceous acuminate - 3-nerved - ^{slightly} scabrous on
 both surfaces - Panicle erect - ~~elongated~~ - ^{8"-10"}
 long sheathed at base on short exserted. Spikes
 numerous (40 or more) 2" long & slightly spreading
 solitary or fasciculate & subverticillate. Bracts slender
 channel scabrous ~~entirely~~ ^{imbricately} ~~florid~~
 the whole length with nearly sessile acute
 7-8 ^{spikes} ~~spikelets~~. Glumes unequal - lower acute & narrow
 about 1/2 the length of the ovate upper imbricate
 upper one which is less than 1/2 the length of the
 spikelet. ^{2" long spikelet 3 1/2"} florets imbricate. upper most imperfect -
 lower palea glaucous, thin. Nerves - membranaceous
 3-nerved (central nerves marginal, denticulate & bifid
 at apex - the central nerve slightly produced - ~~long~~
 lower half of marginal nerves long pilose -
 upper palea equalling the lower, broadly bicarinate
 obscure & denticulate at apex, pilose on the nerves.
 Stamens 3 - orange short stipitate styles 2, simply plumose,
 purple - Squamulae 2 broadly cuneate, entire. Seed
 oblong, ~~furrow~~ concave on the inner face, loose in the
 pericarp -
 moist situations along the
 Rio Grande, in the Leroy Valley Schott - Fort Yuma
 Maj Thomas. Also collected on the Gila by Maj
 Emory in 1846 -

(over)

11

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Lower sheaths purplish leaves & panicle
pale green - Allied to *S. fascicularis*
from which it differs in its elongated &
many spiked panicle - its appressed flouts
which are much smaller & its nearly mucous
paleae -

(149) Munroe Rio Grande Schott

150 — *Leptochloa Sonora* 1086 Th. = 2044 M.

— *St. James* —

Al.

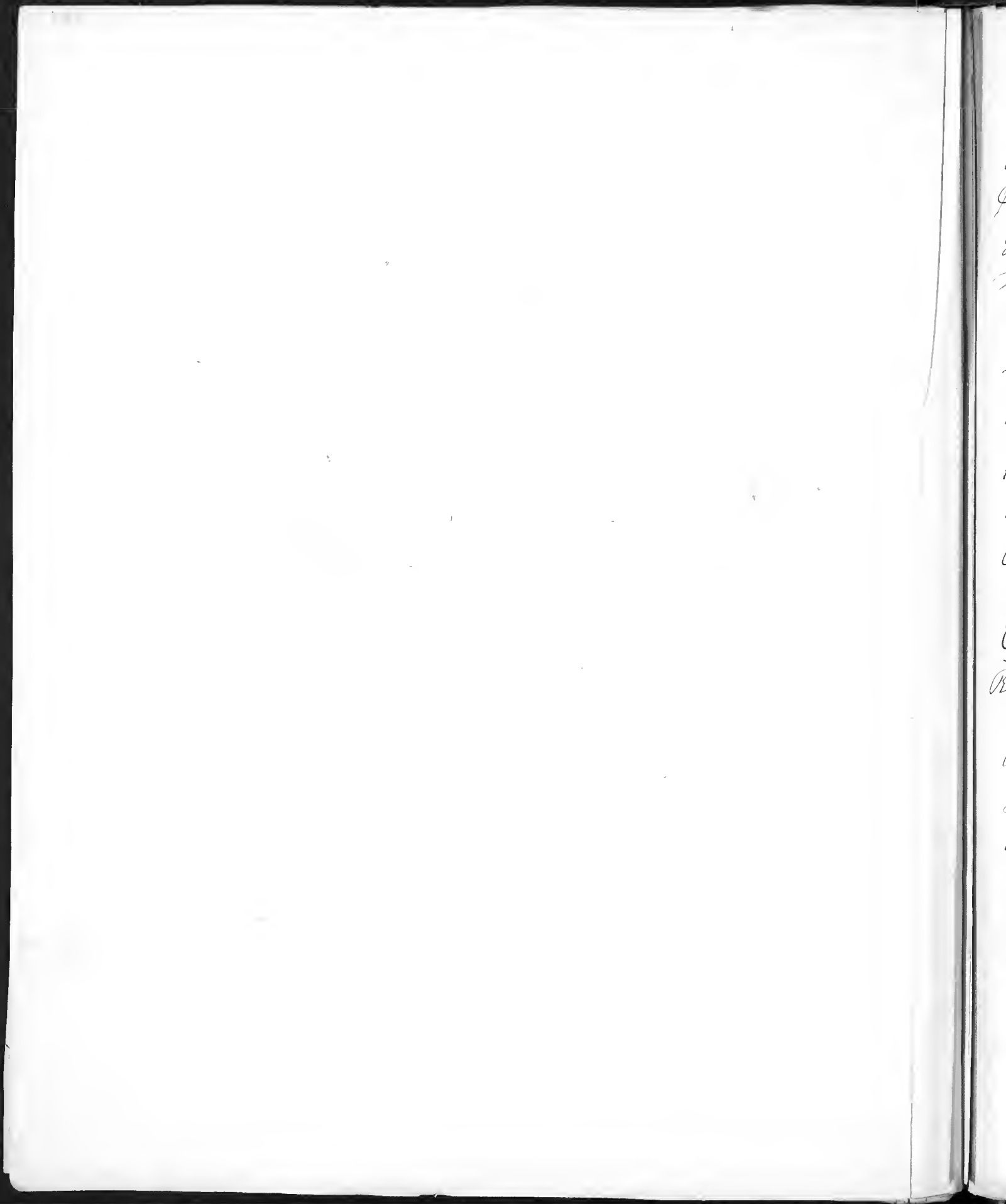
to be picked - p 32.

the is very low in high water - p 28. August 64
 2 hours low water, 64, p 202

Myrica Boundary
 Groups

Festucaceae

Festuca
 Stipa
 Bromus
 Melica
 Koeleria
 Eriophorum
 Uniola
 Brizopyrum



Roellia cristata Pers; Rth. Enum. 1. p. 386 & 2. 5. 3. 5

Hills near Rock Creek July 4 1892 - & gravelly plains
July 24th - No-2061 Wright -

The var gracilis Gray which is R. nitida & tutawana
Mutt. - was collected by Fremont in 1843-44.
a very large form from California, see in
Fitch.

Roellia cristata var laxa - Panc. de loose
branches distant below - radical leaves short (2"-3")
pale green pilose pubescent -

Coppa Mine, Bigelow. var.) murice
(151 Bigelow's var.)

Eatonia obtusata Gray Num. 2. p. 558

~~Reboulia gracilis~~ Rth.

Roellia paniculata Mutt. Enum. 2. app.

Reboulia gracilis Rth in part.

San Eligario Exp. Bigel; No 2060 Wright.
Leon Rio Grande, ~~San Luis~~, Schott

Mirola paniculata Scrim: Wh. Enum. 1. p.

425 o suppl. p. 346.

Sea beach at the mouth of the Rio Grande
Nov. 1853. Schott.

Brizopyrum Douglasii Hook & Arn Bot Beechey!
Jour. in Whipple Rep. p. 101!

Poa Douglasii Rees in Engl. Ann. Nat. Hist. 1. p. 284

P. Californica Steud. Pl. Enum. 1. p. 261.

Sea Beach, Monterey, Cal. April 1850 - Parry.

No 753 Coulter Californica Cal.

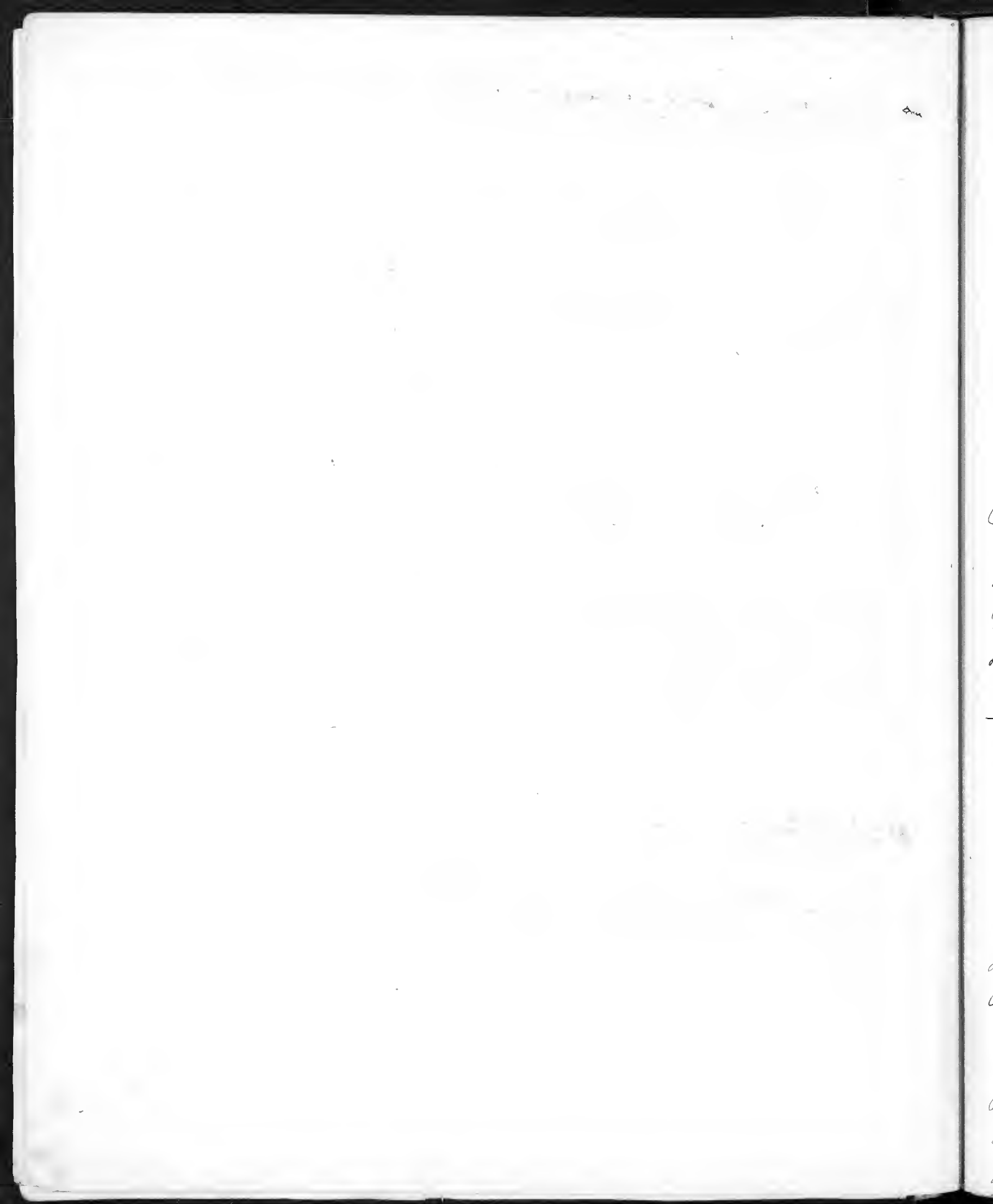
The specimens as well as all that we have examined
including the original ^{type} from Douglas' collection are
all staminate with an imperfect ovary -
sheaths inflated, upper leaves 4" long - ^{lower} ~~upper~~ pilose
hispid on the keel -

Brizopyrum

Mirola stricta Jour. in Ann. Lye. Nat. Hist, N.Y. 1. p. 105!
in Murray's Rep. R. 301!

Mirola multiflora Ruett. in Trans Amer. Phil Soc. (N ser.)
5. p. 148!

Hook & Arn.



Brizopyrum spicatum Hook & Arn. Bot. Beechey. p. 403.
 ('Urtica stricta Torr. & U. multiflora Nutt.) Grange
 Mem. Ed. 2. p. 560.

Boa Michauxii Kunth. Bresen. 2. t. 181; Enum 1. p. 325 &
Suppl. p. 278.

San Eleazar Texas. Bigelow & Collected also by Fremont
 Exped 1843-44 -

These do not seem to differ in any particular from
 the plant of the Atlantic coast -

Van Stricklandii. panicle loose - spikelets few - many
 (14-20) flowered erect - leaves setaceous serrulate, these ^{of the} sterile
 branches mostly exceeding the culm.

Urtica stricta Torr. in Am. Soc. N. Y. 1. p. 155! & in Murray's
Rep. p. 301. ^{to 20} Urtica multiflora Nutt. in Trans. Amer. Phil.

Soc. (N. Y.) 5. p. 148! B. spicatum Hook Flor. Bor. Am.

2. p. 255 in part.

~~The Urtica stricta Torr. was founded on an extreme~~
 Along the Rio Grande at San Eleazar & Fronteras
 Bigelow & Bigelow, in the Gila region Schott & Thurber,
 No 2033 Wright -

Before a careful examination of a large number
 of species we fail to find ~~any~~ good characters to
 sufficient to warrant us in keeping this as a
 distinct species - though some forms appear very
 different from the typical, it was upon one of
 the most widely differing forms that the Urtica
stricta Torr. was founded - the spikelets flouts are
 at least twice the size the texture of the paleae
 finer & the leaves more generally erect than

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in the plant of the Eastern States - but our own
 very full suite of specimens we find every inter-
 mediate state & ~~most of the~~ ^{order} between
 the two. Like the type this is monocious - ~~the~~
 possibly polygamous as in some of the staminate
 flowers we find ~~are~~ well formed though small
 ovary - The pistillate plant also bears rudimentary
 stamens at the base of the ovary. There is the same
 difference in the paleae of the staminate & pistillate
 flowers as exists in *B. speciosa* - None of the former
 being less compressed - 2034 & 2043 Wright are inter-
 mediate forms.

- | | |
|-------|--------------------|
| 152 - | Red River - Mexico |
| 153 | Rio Grande Brazil |
| 154 | Rio Gila Th. |
| 155 | San Blas Brazil |

Melica nutica Walt.

var diffusa Gray. Ann. 2. p. 55-8

M. diffusa Burch

M. scabra Nutt. Fl. Ark. Terr. in Trans. Am.

Phil. Soc. (2 ser.) 5. p. 148!

M. glabra Torr in Muncy's Rep. p.

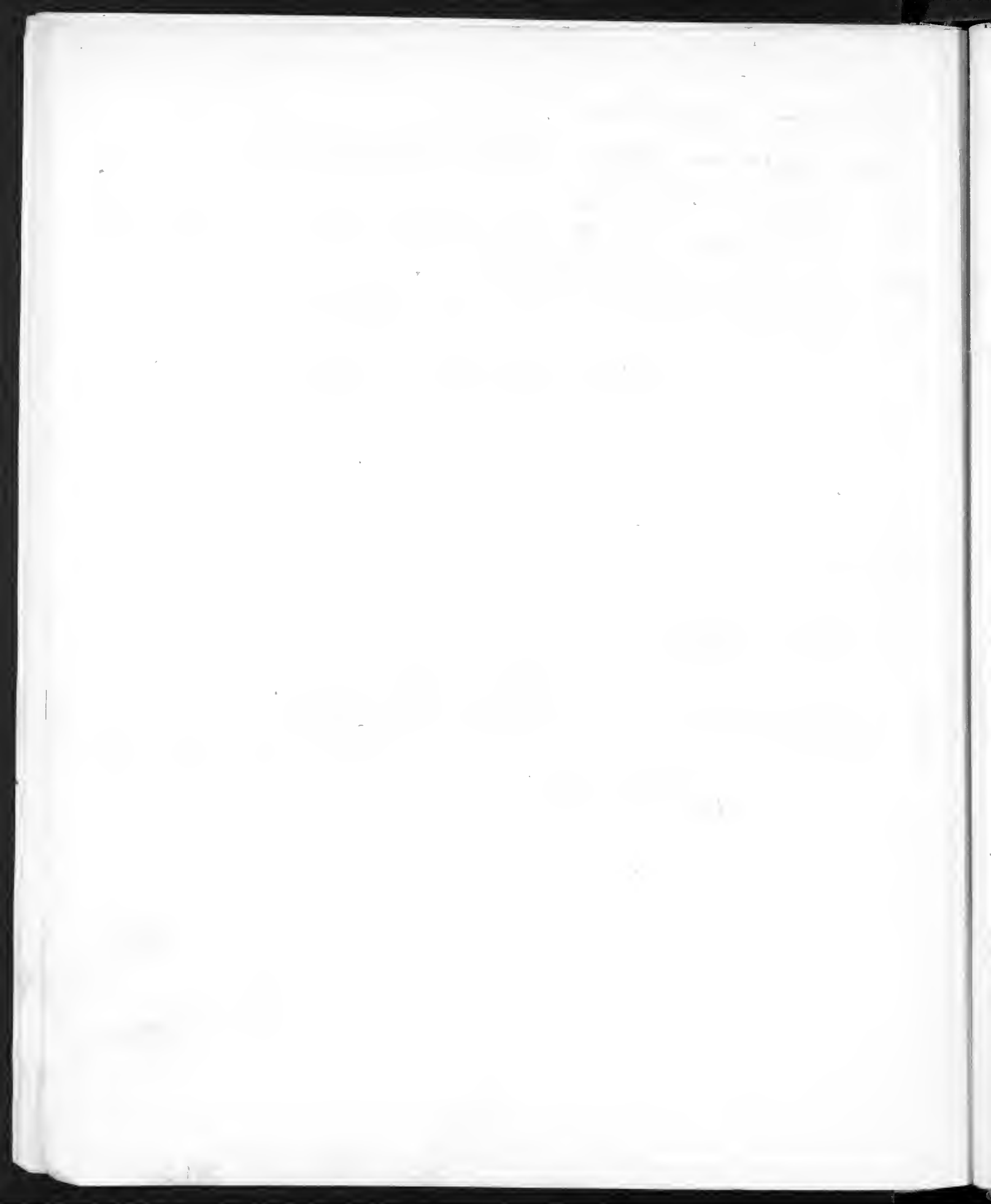
No 2062 & 2063 Wright - Mexico, Gray -

Melica

San Diego, Parry -

(To be compared with M. panicoides Nutt. Fl. Bamb. &
M. imperfecta, Trin - = Ruelaria pousiformis Torr. in herb.)

156 Munroe - all the stock of Herb Torr,



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Res. Agrost. Brazil, p. 470 -

Bromus unioloides Willd? ~~N.B.R. p. 151?~~

Ceratochloa unioloides Beauv. agrost 75. t. 15. f. 7.

Bromus Willdenowii Rth. Gram. 1.134 + Kunz 1.416?

Texas. Wright, Leavenworth - collected also by Capt Pope - There seems to be ~~some~~ confusion respecting the synonymy of this species which probably comprises several nominal ones - If the width of the foliage & presence of ~~an~~ short awn are the only characters which ^{distinguish} ~~separate~~ B. (Ceratochloa) breviaristatus, Hook - Fl. Bor. Am. That two must be added to the list of synonyms - as ~~we find~~ in the same specimen & even in the same ^{some florets with longer} spikelet, palea merely acute & others being a distinct awn as figured by Hooker -

Bromus cernuatus, Hook & Arn. Bot. Beechey. p. 403?

Copper Mines, Bigelow # no 2066 Wright
~~a single specimen in a bad state of shrivel up -~~
~~seems to be this species,~~

	157	univul	2065	Wright	Herb Torr
Ex	158	"	2068	"	" "
	159	"	2068	"	" "
	160	"	2069	"	" "

Bromus grandiflorus (Hookeri)

Geratichlou grandiflorum Hook. Fl. Bor.-Am. 2 sp.
253 tot 235!

Scirpa Breita (nem yuma?) Schott - Fremont
 no 450. 1846 - Californian Brew in Fitch -
 (name must be changed? - There is a B.
 grandiflorus. b. Hook. in Scirpus XI p. 418 -)

Bromus

nos 2065-67-68-69- Wright -

Poa

Annual - 6 inches high. Culms & beneath the narrow leaves 1-1 1/2 inches long - 1" wide acuminate pointed slightly scabrous on the margins - plane - not rigid -

Panicles contracted. Branches mostly in pairs & longer than the other - capillary - densely scabrous being 2-5 spikes

Spikes much compressed. Broadly ovate short pedicelled pale green - rarely reddish - 3-4 lines long by 2-3/4 " wide. 6-8 flowered -

Glumes compressed carinate - lanceolate, nearly equal, upper somewhat larger than the lower - scabrous on the back - upper 3 & lower 1 nerved.

Lower glume acutish - ~~intermediate~~ scabrous at the apex & margins, somewhat rigid, conspicuously silky villous on the midrib 2/3 the length of the lower half of the marginal nerves - intermediate nerves indistinct, ~~obscure~~ distinct at base, upper pale 2/3 as long as lower - perianths & villous on the nerves -

Stems 3 -

Wet Quines Oregon Mts, April Bigelow -

Nos 208 - ~~208~~ - 2040 Ariz. - Rio de los Rios

A larger form a foot or more high 105 & 255 Wright -

No 931 Hudson seems to be the same thing but is perennial

1000 111 1

This is nearly the same group as specimens
in Herb. Tor. from Gates, Fletcher & Juncos.
mobile - named "Poa annua undeveloped"
& "Poa rigida Ell?" Smear Co. K. C. Dr
Hunt - & specimens from Chapman
of which Gleason says "I can make
only *P. annua*"

But has *P. secunda* & *P. verticillata* - from
Chili which seem to be new *Poa annua*
or varieties of it - What is *P. rigida* Ell??

161 - from de Th.
162 - from into Th.

Poa lapa

near *perpetua* now Fremont Broadway
not Eged - 1842 - Aug 15 -

Poa trachifera
seems to be mostly *diversa* & the pistillate
forms more curly -

2142 Wright -

Perennial, caespitose, clothed at the base
with succulent sheaths, culms compressed
rigid rough - a foot or more high.
Sheaths rough exceeding the nodes. Ligules
short-truncate. Leaves of the sterile shoots
 $\frac{2}{3}$ as long as or equalling the culm, convol-
ute setaceous - rigid - scabrous - ~~often~~ recurved.
Culm leaves short - $\frac{1}{2}$ " - 2" long. The upper ones
very much reduced or wanting.

Panicle about 3" long contracted or expanded when
old base often included, branches ^{on 3's - distant} in pairs, & with
the common rachis scabrous. Nerve or leaf naked below.
Spikelets 3-4 lines long - somewhat flattened
5-7 flowered. Mostly divaricate - glumes lanceolate
acute, upper nearly as long as the florets - lower smaller
lower 1 upper 3 ^{pales + rough} ~~nervid~~ ^{on the back} - top three
pappus are except around the midrib - lower palea
nervid - 5 ^{nervid}, intermediate nerves faint - villous ^{pales +}
^{on the lower half} ~~of~~ the middle & marginal nerves; upper palea
nearly equalling the lower - broadly 2 carinate ~~or~~
nearly truncate at apex - ciliate hispid on the nerves.

Stamens 3 -

Long filiform. styles 2 plumose nearly to base - lg. 2

Grain adherent to palea?

Seems to be perfectly deciduous - the stamens
filiform the lower ~~palea~~ more acute & the
upper somewhat 2 fid -

Copper Mines, Organ Mts, San Diego (on the
Rio Grande near Santa Ana?) Brightlow, — Sta
Cruz Parry — No 251 bright — 2041
a smoother form of same?

Also? 932 Fend. which have some of the
paleae serrulate at tip? —

Plant pale glaucous green —
probably near *P. Koelerioides* R. & S. & S. & S. & S.
Fend. — See Gillies' Bus —

163	Narrow	Organ Mts	Bright
164	"	San Diego	White Bright
165	"	Sta Cruz Sonora	Parry
166	"	Copper Mines	Bright

Erugrostis Mexicana Des. Agrost. Mex.
p. 503 ?

Near the Limpia Mts + Cooper Mts New
Mex. Bigel - No 2048 + 2049 Wright -

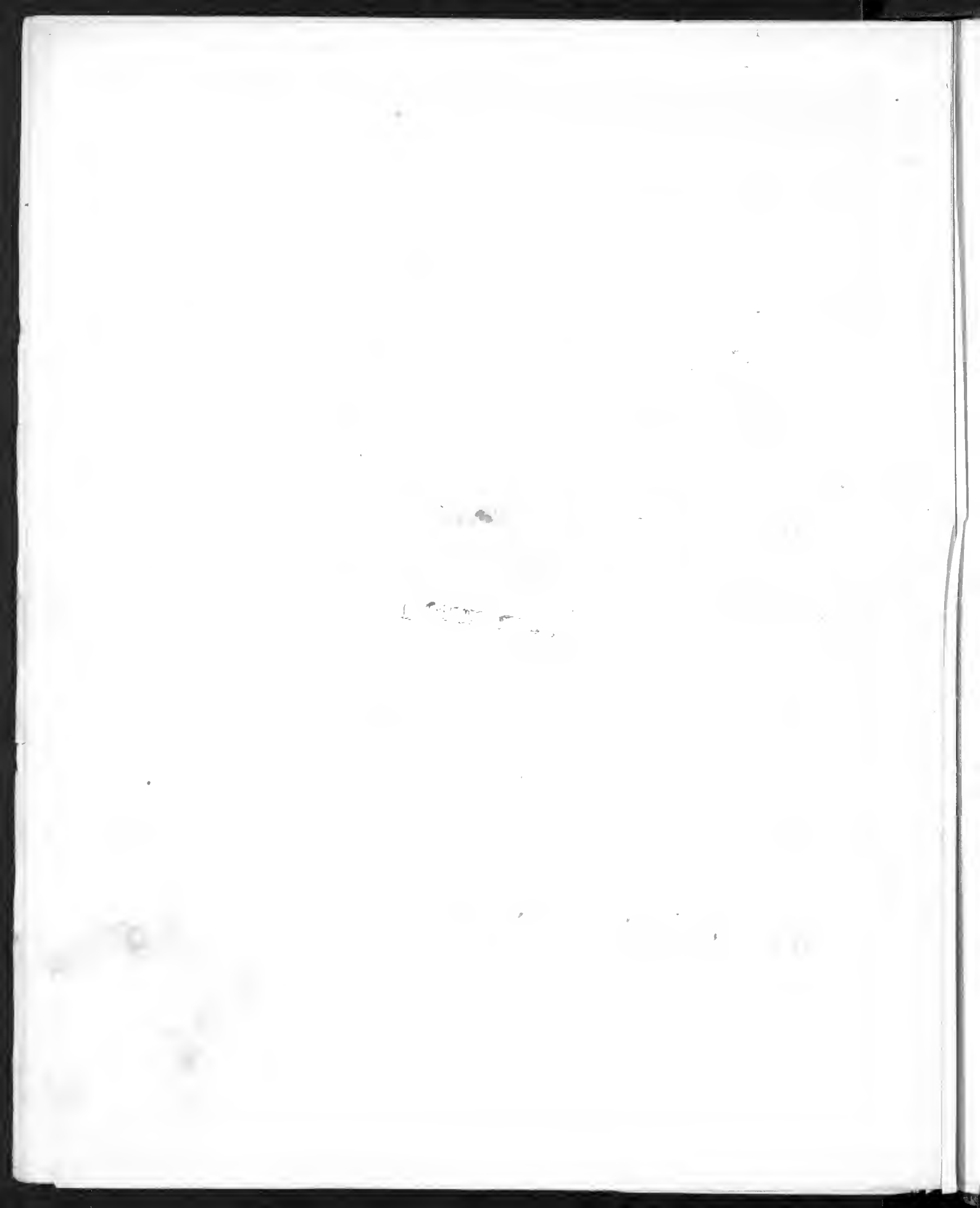
The specimens agree tolerably with Des.
description of this polymorphous species -
Bigelous specimens are nearly 3 feet high
with a spreading panicle above a just on
more long - Spikelets of the lower branches
2-3 flowered those of the upper about 10 -
Glumes scabrous on the nerve - pulvin obscurely
3-nerved rounded at mouth on the back -
167 Mexico - Coln Bigel

Erugrostis Purshii Des. Schrad! Erug. Mex.
et 2. p 564 -

Mindus Bigelow 2051, + 2052 Wright -
(237 Fendl?) (No 2047 Wright a form of this?
+ to be compared with E. Frankii Meyer)

A delicate slender annual from Limpia -
Bigel - is it a state of Purshii ?? - what to do
with it - do - 2046 + 2053 Wright -

168 Limpia Bigel



Eragrostis reptans - Nees in Flor Brasiliæ 2
p 514 - Gray Man. Ed 2. p. 563 -

Poa Reptans Michx Flor. 1. p 69. t 11.

Poa Cyprioides Lam. Hb. (fide Nees)

Poa Capitata Nutt

Poa Capitata (See Torrey's Flor. 7

Poa Capitata Nutt in Trans Am. Phil Soc
Vol. 5. p. 146. -

Texas & Along the Rio Grande, in all the
collections - (Nos 895¹⁹ - 2325 - Burdard - 308 & 320
Dumond 101 & 29 Col - 2045 Wright - Reynosa
Mexico Gregg -

The specimens all of the capitata form -
 variable as to acuteness of pulea - the and
 relative length of pulea - The staminate florets
 have the upper pulea frequently as long as the
 lower - In the peristachia it is usually about
 half as long - In some of Agelonea speci-
 mens the spikelets are fully $1\frac{1}{2}$ inches long
 with about an hundred florets - sometimes
 softly pulverulent throughout -

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-

Eragrostis oxylepis Torr. in Muey, Rep. p.
 301 ~~tab XIX~~ - (Sub Poa) Tab. XIX & Whip. Rep.
 p. 156 -
Poa interrupta Nutt. - Trans. Am. Phil. Soc.
 (N. Ser.) 5, p. 146. 1850 -
Eagle Pass & Lameda Schott -

Eragrostis proceroides Beauv. - Van Muey or tuckey
 Gray. Man. Ed 2. p. 563 -

Poa megastachya Desv. -
 Various places Sonora & Chihuahua -
 - Tucson Schott - Ariz. Gilman Gray 1846 -
 - No. 864 - 2284 - 2570 - Borelandia -

Eragrostis alba Presl. Rel. Havnike 1. p. 279?

Kern River Californian in Blake -
 In perfect specimens of what appears to be
 this species - remarkable for their very pale
 spikelets & minutely spiculate panicle -

Mycesin? Pungas Thut.

Perennial - culms numerous from a base
 Creeping rhizome, about 1 1/2 feet long. Culms
 longer than internodes, smooth pubescent - piliferous
 at base - & with the leaves pale glaucous,
 stem - lower ones attenuated & crowded at the
 base of culms - ligule short fibrillate -
 Culms somewhat (when dry), about 2 inches long 1-2 lines
 wide at base tapering to a somewhat rigid &
 pungent apex - very striate minutely pubescent above
 mostly glabrous below - Nodes of the culms &
 Rhizomes very short & spinose
 Panicle erect, branching ^{compound} branches somewhat - granular,
 striate - arising on the lower fascicled in 2-3 -
 at the base pilose in the axils
 Spikelets very short pedicels - 1/2" long. Numerous
 about 10 flowered, head colored - Glumes ovate acute
 strongly 1 nerved - lower smaller - 2/3 length of lower
 flours - flours lower pale broad ovate blunt
 or subacute - rounded on back - strongly 3 nerved
 concave - ^{divided} ~~retrorse~~ upper broadly bicarinate slightly
 scabrous on nerves - equalling the lower -
 Nerves 3 - Stigmae plumose with branching hairs
 Squamulae 2 - truncate -

Bayam de Sta Maria Cha - Bigelov.
 193 May 26 -
 169 Murove Bay Sta Maria Bigelov

Glyceria serotina Trin
 Low grounds valley of *Matili* ~~river~~ *river*
 Thakur -

Festuca microstachya, Nutt. & Guss., in
 Jour Acad. Phil (nat. hist.) 1. p. 187-; Torr in Whip.
 Report p 156-

Sage Ranch - cal. ~~large~~ & Dry Hills San
 Diego - those from the former locality are
 well developed. Those from the latter are slender
 stalk 3-4 inches high -

Festuca tenella Willd. Sp. 1. p. 419; Kunth. Enum.
 1. p. 397;

Copper Mines N. Mex. Bigel - nearly like the
 plant of the Eastern States -

Fest. aristatula Torr. in Whip Rep. p. 156.
 Frontier Texas, Bigel. ^{former slender} Black Water Spring Valley.

2036 Wright? - also by Capt Pope -
 New very specimens which we regard as all
 as forms of *F. tenella* are mostly dwarfed in
 habit & with the awns very much ~~reduced~~ ^{reduced} varying
 in length - some some very much reduced or wanting.

Saxerius Mactylorides Nutt. *Gen.* 1. p. 165.
Mr. in *Quincy Rep.* p. 154. + 10, & *Whip Rep.* p. 157.
Salmon Ind. Eagle - Nov 31 1890.

My Bondy Group

Alameda

Aira

Trichomanes

Leptotheca

Leptotheca

Trichomanes

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Avena (Deschampsia) elongata Hook. & H. Bor.
 Am. 2. p. 243. tab. 228; Torr. in Whipp. Rep. p. 155.

California. Rev M. Fitch & Clear Water River
 Rev M. Spalding
Deschampsia elongata Munro: In Bentham,
 R. Hartweg, p. 342.

Hooker seems to have overlooked the plumose
 rudiment noticed by Gray, which is in some
 specimens nearly as long as the flower.
 All the specimens we have examined
 have 3 stamens save those collected by
 Dr. Bigelow in Whipple Exped. which have
 but one. The older states of the plant
 have the branches spreading & the aspect
 is very different from that of the young
 specimens where the branches are erect
 941 Hook. D. spicata

Danthonia spicata Beauv. R. & S. (Beauv. sent Gray)

Van Lape -
 Monterey 1850 - Davis -
 Spikes 2-5 - long pedicellat, spreading. Glumes more
 bearding the flouts - lower palea glabrous except
 a ~~few~~ tuft mid way on the margin ^{more when the} ^{toles}
 acuteminate - not aristate - awn as long as the ^{tuft}
 palea - somewhat scabrous -
 We cannot consider this as specifically distinct from
 the plant of the ~~Atlantic~~ Atlantic States. New Jersey
 specimens in Herb. Torr. have very nearly as loose
 inflorescence -
 (170 Munro) M.

Deltoideum & megastachyum medium habit
aerid - upright stems 2-3 feet high
low branches of panicle 2' long
spikelets $3/4$ ' long plains of Columbia

Alnus (Dischampsia) elongata Hook. & Ar. Bot.
Am. 2. p. 243. tab. 228; Torr. in Whipple Rep. p. 155.

California, from Mr. Fitch & Clear Water Canyon
Rev Mr. Spalding

Dischampsia elongata Munro; Dr. Benth.
H. Hartweg, p. 342.

Hooker seems to have overlooked the plumose
rudiment noticed by Torrey, which is in some
specimens nearly as long as the flower.
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have 3 stamens save those collected by
Dr. Bigelow in Whipple Exped, which have
but one. The older states of the plant
have the branches spreading & the aspect
is very different from that of the young
specimens where the branches are erect

Alnus in spicata Beauv.

~~Atterley Bals. - May 1850. Parry -~~

~~specimens have all 3 spikes each -
that the lower pulvin is fulvous on
margin only and its lobes are somewhat
ter. They do not differ from those
the eastern states,~~

Trisetum toluccense Rth. Gram 1. tab. 65 (sub. Gram)
+ Enum 1. 296 + Suppl. 248 tab. XIX f 2.

Lajas, Wright. & Lindheimer

The nearly allied *T. degenioides* Rth. was collected
in Mexico by Mr. Parkinson.

171 number Lindheimer

Arena fatua Less.; Rhomb. Enum. 1. p.

302 & Suppl. p. 256 - in Calif. Parry & Thuermer
San Diego & other places.

Ficuspis purpurea, Gray Man. Ed. 2. p.

856. Malepis purpurea, Gray & aristulatus

Gray, Man. 1. p. 62

Gray, Man. 3^d Col. no 330.

Gray, Man. 3^d Col. no 330.

Ficuspis Leslerioides Torr. H. & A. 2. p. 118.

Windsoria poaeiformis Witt Ell. 1. p. 70.

Malepis cuprea Rhomb. Enum. 1. p. 318 & Suppl. p. 275.

Rio Grande, various places, Schott. River
Leon, Texas - no 2055 Wright - also in Western
Texas by Dr. Anttill -

The specimens by Dr. Bigelow & Schott are
diminutive, those by Wright nearly
as large as the plant of the Eastern
States, the culms in all ~~somewhat~~ pilose
pubescent especially above.
(ask Gray to examine Wrights)

Tricuspis Nutt.

- 172 Boissel Whip original
 173 2046 Wright,
 174 2064 "
 175 779 " col 1879



Tricuspis Nutt. - H.B.K. + 48.

Tricuspis arenacea

Tricuspis arenacea Rth. 9mm. 1. 108 + Enum. Suppl.
 p. 274.

Tricuspis arenacea H.B.K. 1. t. 48.

(No 781. Wright. col 1879 -) El Paso. New
 Mexico. April.

178 Mexico. Herbar. 781 Wright.

Tricuspis mitchellii Torr. in Whipple's
Rep. p. 156-

Texas, Wright, nos 180-291 (what col?) + 200
+ 2046 (~~for 2046? lat. fringes~~)

Wright (?) Larger in all its parts - scabrous
+ sheaths + leaves pilose - ^{pubescent sometimes microscopically} -
primary elongated many ^{pubescent sometimes microscopically} spikelets -
No 2054 Wright - a form was collected also by Dr
Antisell intermediate between this & the
typical one - Culm 2-2.5 feet
high panicle 8" long.

Tricuspis pulchella Torr. in Whig. Rep. p. 156.

Tricuspis pulchella Rth. Enum. 1. p. 318 &
Suppl. p. 274 Triodia pulchella H.B.K.

1 + 47.

From the Rio Leon Texas, along
the Rio Grande & Guila to Fort Yuma
by all the collectors.

(To precede Anna)

Trisetum degeeroides Rth. Grav. 1. 102 & Enum.

1. 297 & Suppl. 251.

176

Texas Th

Texas, Wright.

177

Leon Springs, Birel

Thes &

Tricuspid

compresed, slightly scabrous & pilose below.
 Culm cespitose, rigid, 6"-10" high.
~~Stipitate~~ ^{suberect, pilose above.} & somewhat geminate at the solitary
 node. Sheath short $\frac{1}{4}$ the length of the
 internodes, striate compressed carinate, smooth
 except at the throat where it is furnished with a
 pilose tuft - ligula minute, ciliate lacinate,
 leaves plane or cuneulate by folded -
 rigid conspicuously 3 nerved - central & marginal,
 pilose pubescent on both surfaces - scabrous on the
 margins, scarcely attenuate toward & mucronulate
 at the apex - radical about 2" those of the
 culm about $\frac{1}{2}$ " panicle contracted, ovoid,
 branches attenuate, appressed, erect - 1-3 flowered -
 as well as the common rachis hairy -
 spikelets subspike - ~~flower~~ ovate - many 10-14 flowered
 $\frac{3}{4}$ " long compressed - glumes membranaceous
 1 nerved, carinate, acute, somewhat distant on
 the rachis - the upper longer & slightly aristate,
 scabrous on the nerve - both shorter than the
 lower flower - flowers distichous, the densely bearded
 rachis readily separating into joints - lower glume
 compressed carinate $\frac{3}{4}$ " long - acute, membranaceous
 3 nerved - the lateral nerves green, intramarginal
 not prolonged - the central prolonged beyond the
 apex into a seta about $\frac{1}{4}$ the length of the glume
 which is denticulate at apex & scarcely bifid, glume
 densely silky pilose below - the marginal nerve
 being a silky tuft near the base - & pilose above with
 an intermediate naked space - upper glume oval
 obtuse, bicarinate conformed to the lower - pilose
 ciliate on the nerves, stamens 3 - ovary stipitate
 styles 2 plumose with simple hairs, squamulae
 2 - fleshy - truncate, seed oblong smooth & shining

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scutellum nearly half its length - ⁹³ the alba - ¹²⁶
narrow portion translucent. except the nervi
Leaves pale green - pulv. mostly white,
sometimes ^{slightly} tinged with purple -

Leon Springs Sept 7. & July 24 1852 Bigelow
also by Pope - March 24 (restiges) No 2058 Wright & REX
~~collected~~

~~Does not agree with J. acuminata HBK.
But has 6 flowered spikelets with glumes 2 small
the former fl. & deeply 2 for present~~

Near J. acuminata: with which it was
mixed in the distribution of Wright's Col 1849 -
readily distinguished from that species by its
larger & many flowered spikelets - & its broader
curvate & acute & mostly entire lower
pulea -

179 (Bigelow Leon Springs)

W. deane

W. deane

W. deane

W. deane

W. deane

W. deane

British reports

181 mms

2072 Wright

182 —

Copper mines Brazil

183 —

Guinea

"

Lolium temulentum Sw. - Jac. 122; W.
num. 1. 437.

San Diego. W. 2. Photo around variety
 collected in California by Dr. Andrews. Introduced?
 (1801) W. -

Friticum Eplur Sw. l. c.; W. num. 1. p. 445,
book. W. - W. - Am. 2. p. 254 -

Various forms of this variable species in all
 the collections from Texas to Oregon -

Friticum caninum Sw. - W. 3. Gmelin's Ledeb.
J. K. Ross; book. W. - W. - Am. 2. p. 254;

F. divergens, Sw., in Steud., Sp. W. Gmel. 1. p. 347?

Copper Mines, Oregon, Rev. Mr. Spalding.
 This seems to be an esteemed pasture grass in
 Oregon - Mr. Spalding, a missionary who collect-
 ed some years ago at Clear Lake sent the
 following note with his specimens "Common
 bunch grass of Upper Oregon, superior to any in
 the world; Stalks usually 2 feet high and fresh through
 the winter, often eight inches high in March"
 181th 181th num. Spalding.

Elymus Canadensis, Sw.; W. num. 1. p. 450,

in all the collections in forms of W.
W. in the present unsettled state of this
genus we refer to Canadensis -

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Nordium prutenae Huds; *Atlas Emu* 1. p. 455; ²⁵ 45 129
For. in *Whip Rep.* p. 157.

H. scutellum Schreb. *H. eximius* K93. n.
(*File. Munro*, in *Pl. Hartney*)
Californica in *Rich.*

Nordium pulatum Grinn; *Gray man.* 2. p. 570.
Lake Sta Maria Bay; No 974 *Whip* St.

The *crura* much shorter than in the *Grinn*
form. 185 *Munro Lake Sta Maria Bay* -
186 " 974 *Whip* St.

Nordium pusillum *Mut. Elm.* 1. p. 57. *Gray man*
2. p. 507 -

Rio Grande Bottom at *El Paso Bay*, No 2078 *Wz.*
San Diego Cal. Parry.

This as *Gray* remarks is very near to *maile*
unio *Smith* - but our specimens of the latter
are not sufficiently perfect for a critical
comparison - *H. Bicklin* *Stend* *Sp* *Gray* 1. p. 352
is probably the species. 184 - *Munro El Paso Bay*

Sitonia Elymoides *Staf* in *Joan de Kays* 89. p. 103
Stend *Sp* *M. Elm.* 1. p. 351; *For* in *Whip Rep.*
p. 157.

Oryzopsis Nystrip *Mut.* *Gray* 1. p. 86.

Elymus? Sitonia *Schult.* *Munro* 2. p. 426.

Polyantheris Nystrip *Munro* in *Ann Nat Hist.* 1. p.
284; *Hook & Arn Bot Beechey* p. 404; *Stend* *Wz.*
p. 356.

Situmins

187 —	Copper Mines Brazil
188 —	Camp Bouche "
189 —	San Diego Th
190 —	Calif. - Tibet

California Miner, Finch

3. Glumes + paleas mostly entire.

Various localities Texas & New Mexico Bigelow
2076. Wright - 903 Santa Fe, New Mexico -

This is a ~~very variable~~ ^{fairly} species has a very wide
range & is very variable. The extreme forms
would be taken for distinct species - The species
from California have multilobed glumes and the
palea bifid - while most of those from West
of the Rocky Mts have entire glumes & palea
& do not differ from others except in habit.
intermediate forms however connect the two.

Munroa squarrosa Torr. Minn. Rep. p. 158,

Cryptis squarrosa Nutt. Gen. p. 49,

No 2080 Wright. No 894 Santa Fe, New Mexico,

191 Munro Brown Th
192 ——— Bright Whip.

2162
2107

~~2378~~
~~938~~
~~1708~~
~~4424~~

Andropogoneae

- Tripsaculum
- Marrubium
- Urtica
- Tessellaria
- Andropogon
- Sorghum
- Yucca

Rottbollia

Tripsacum dactyloides Linn; Rth Enum 1. p 469.

Rock Creek & Pecan Creek near Baytown. River
bottom below - Same Estuaries. Pope -

Muniscus granulatus Swartz; Rth Enum 1. p 469 -

Stem slender - leaves short - fls 4-8 inches
high -

Hills the long slender; no 2097 Wright

193 Muniscus granulatus Th.

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2 Trachypogon macrolophus Trin. Andropog. p. 257

Ficus, Drummond. no 342. 2^d col.

Our specimens of this beautiful grass agree with an authentic Brazilian specimen from Kunin's except that the leaves & sheaths are glabrous.

Heteropogon ~~contortus~~ ^{serotus} (Vr.); Trin Andropog. p. 255
H. contortus R. & S. (teste Trin)

Andropogon contortus Trin; ~~Stk~~ ^{Stk} Ann. p. 146.

Rio Grande Baylors, Schott; Cooke Spring Wharf
Baylors. Fort Luge Duby, Louisa Hunter
no 2099 Wright (+ 809 col 1849)

This species which ~~varies in varieties~~ ^{probably}
forms of this differing in width of foliage &
~~pubescence~~ ^{resistance} of glumes have
been described under other names but we
have not the means of identifying them,
194 Murve - Louisa Th. 195 Rio G. Brazil.

Andropogon candidus Trin. Andropog. p. 260.

Eleonurus alivis Des. (fide Trin)

Mountains of the Limpia Brazil no; no 2106
Wright & no 804 (col 1849) 196 Murve, Limpia Brazil

Andropogon Nuttallii Chap. Sup.

Rotthollii ciliata Nutt. Gen. p. 83.

Ficus Drummond 369 2^d col & in one of Wright's
earlier collections.

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This belongs to *Andropogon* & *Eleusine* rather than
to *Roottellia* & we adopt the name proposed by
Dr. Chapman.

Andropogon scoparius Michx. Fl. 1. p 87.

A. distiflorus Michx. l.c.; Trin. *Andropog.* p. 267.

Rio Grande & other localities Brazil. Schott,

No 801 Wright (8849)

Andropogon furcatus Schreb.; Trin. *Andropog.* p 271
(Tray juster hills & bank) 69 Wright.

near Pinto Camp on the Amazon & Rock Creek,
Brazil - a very large flower from which
may be another species - 197 Murrie Pinto Camp
Brazil

Andropogon *Michx.* ? *Brazil* *Michx.*

Hills near the Mundus, Brazil, No 2104 Wright,
near *furcatus* but differs in the very narrow
(not channelled) glume of perfect fl - 198 Murrie. Mundus Brazil.

Andropogon macrourus Michx. fl. 1. p 75; Trin. *Andropog.* p 280.

near the San Pedro River, Brazil; No 2100 Wright, Palu
Valley Brazil; Nos 491 & 500 Berlin.

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6/12/19, 1914, 755-

Andropogon

A glaucous form in Am. Lyc. 1. p. 153 (non Publ.)
 A Jamesii form in Murray's Rep. p. 302. ²¹⁰²⁴
 A Torreyanus Steud. Syn. Fl. 1. p. 392. (21037)
 San Antonio + Rio Grande Pyrola + Schott. (21037) Wright
 Sanders Key. California V. 1. also 444 + 1764 Berland.
 Ameyn Grande Reg. - Corpus Christi Mex. Ant.
 This which we have from both America, extends
 to the Canadian River (James) + from the Gulf of
 Mexico to the Pacific & is probably an old
 species - of A. lugens DC. ¹⁹⁹ ²⁰⁰ ²⁰¹ ²¹⁰³ ^{Wright}
¹⁹⁹ ²⁰⁰ ²⁰¹ ²¹⁰³ ^{Wright}
¹⁹⁹ ²⁰⁰ ²⁰¹ ²¹⁰³ ^{Wright}

Andropogon argenteus DC.?

A Jamesii form in Murray's Rep.
 2102 Wright; M. Tex. Ant. 1860, Red River Valley
 348 + 2378 Berland.
 very near the preceding, distinguished by its fewer
 nodes + more silky spikes + the conspicuously
 lobate nodes - ²⁰² ²⁰³ ²³⁷⁸ ^{Berland}
²⁰² ²⁰³ ²³⁷⁸ ^{Berland}
²⁰² ²⁰³ ²³⁷⁸ ^{Berland}

Andropogon nutans Linn. (?)

A. acuminatus Michx.
 A. ciliatus Ell
 A. nutans Ell (can. longifolius?)

This widely diffused group occurs in all the
 collections, (2098 W.)

Sorghum bulgarum Pers.

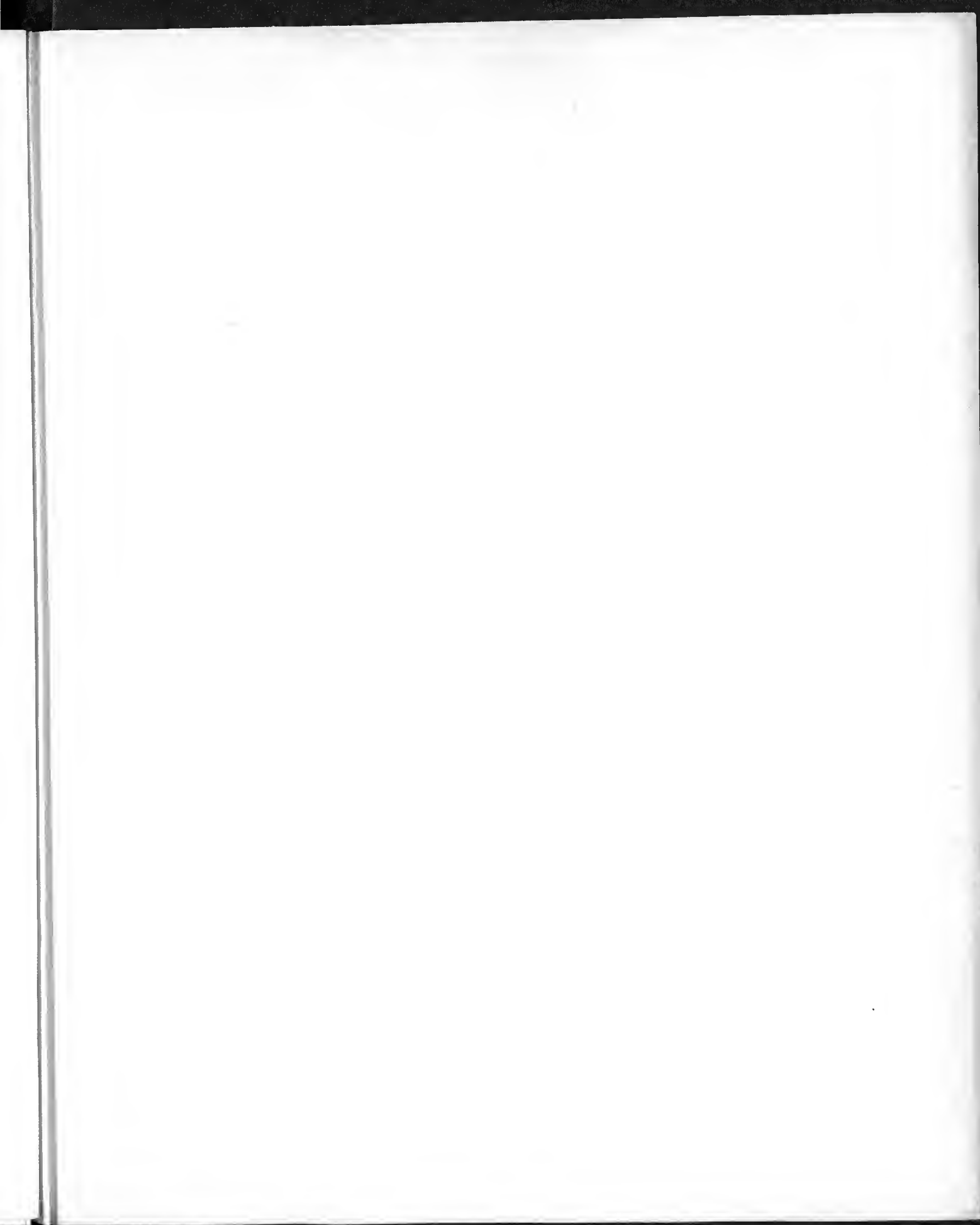
Colorado Rio del Norte - Peru.

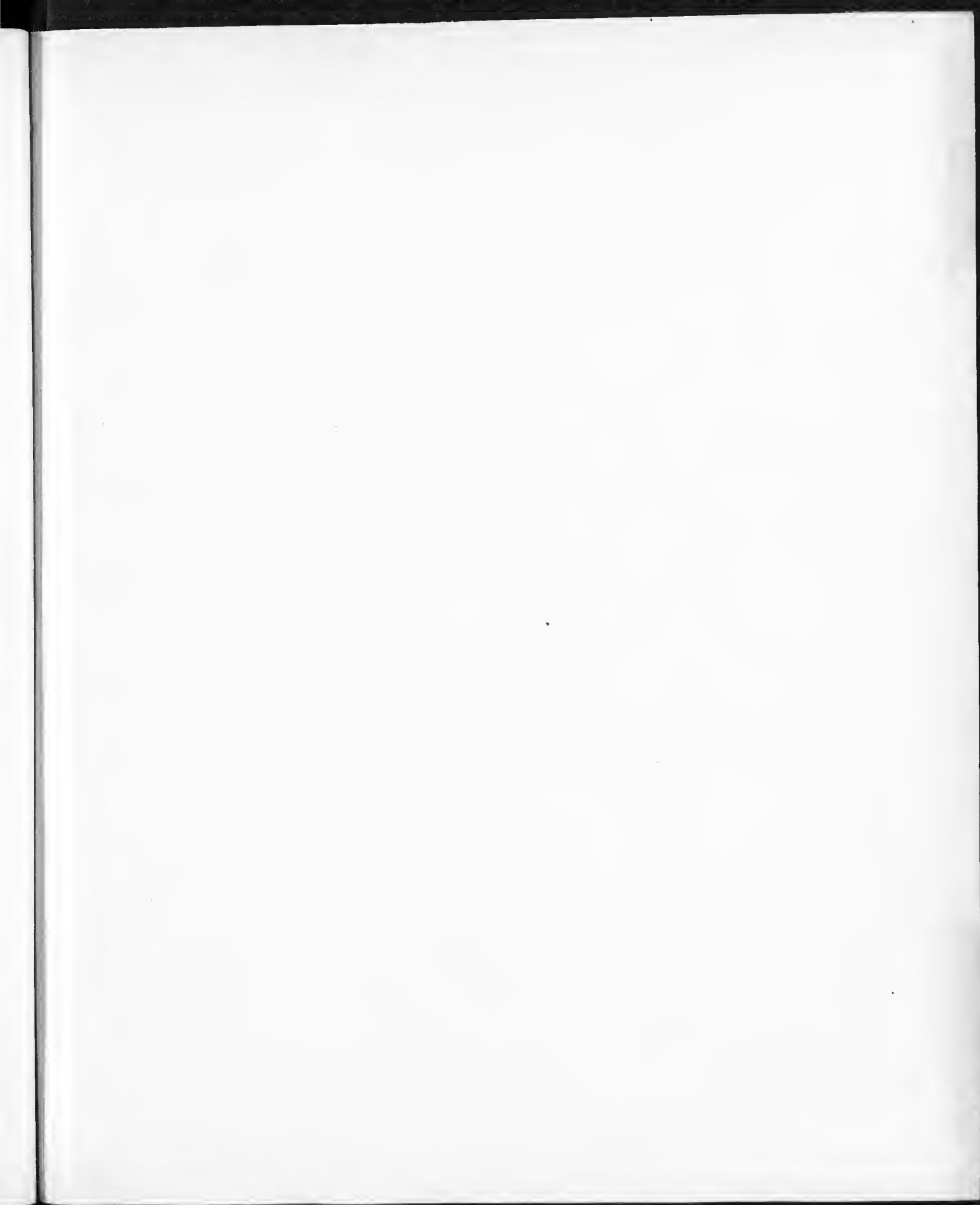
one of the varieties of the common Broom corn -
probably cultivated by the Indians of the
region.

Imperata

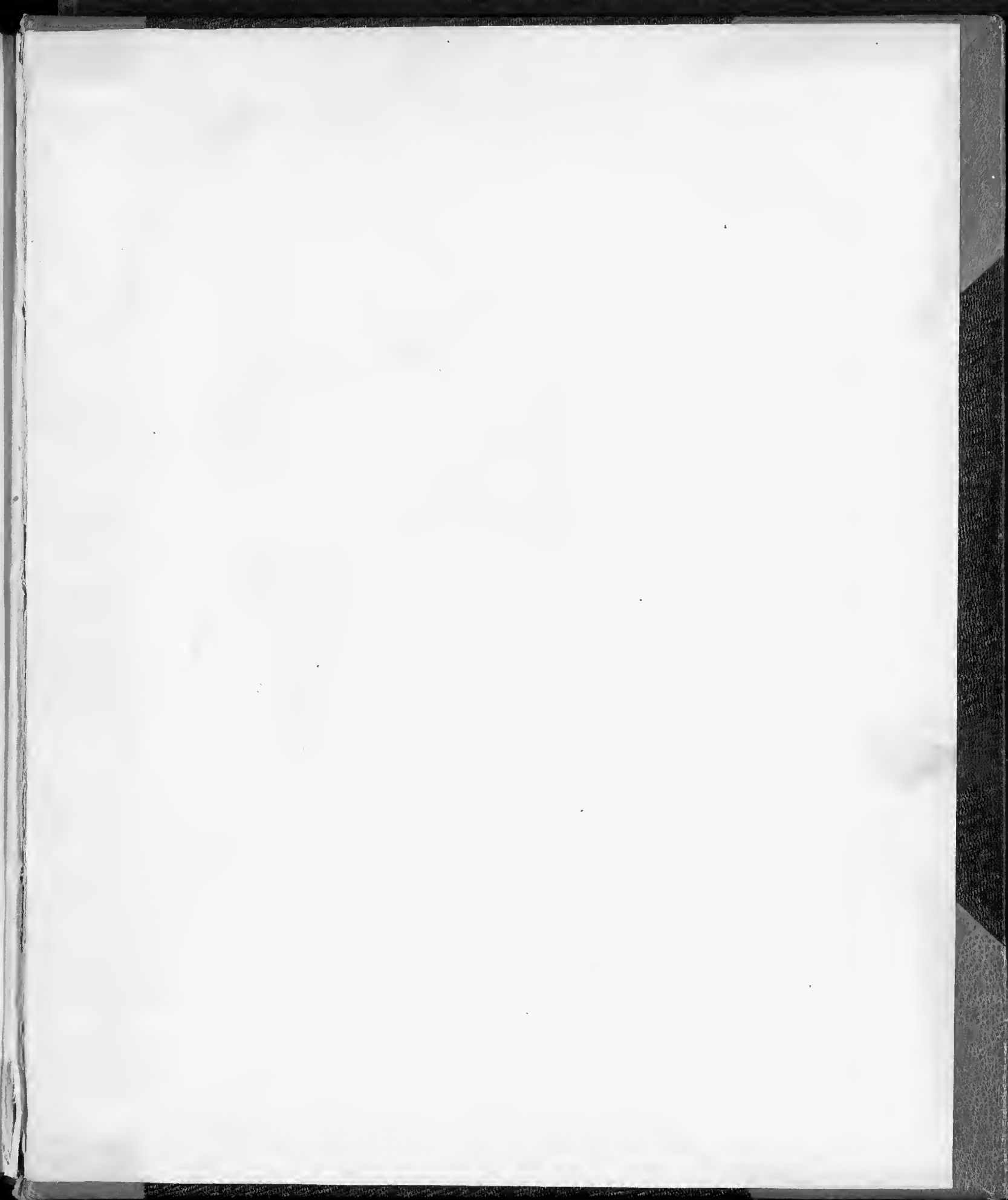
Rio Grande Brazil, No 2101 Wright, 283 seeds
(29 or 30 ? col) -

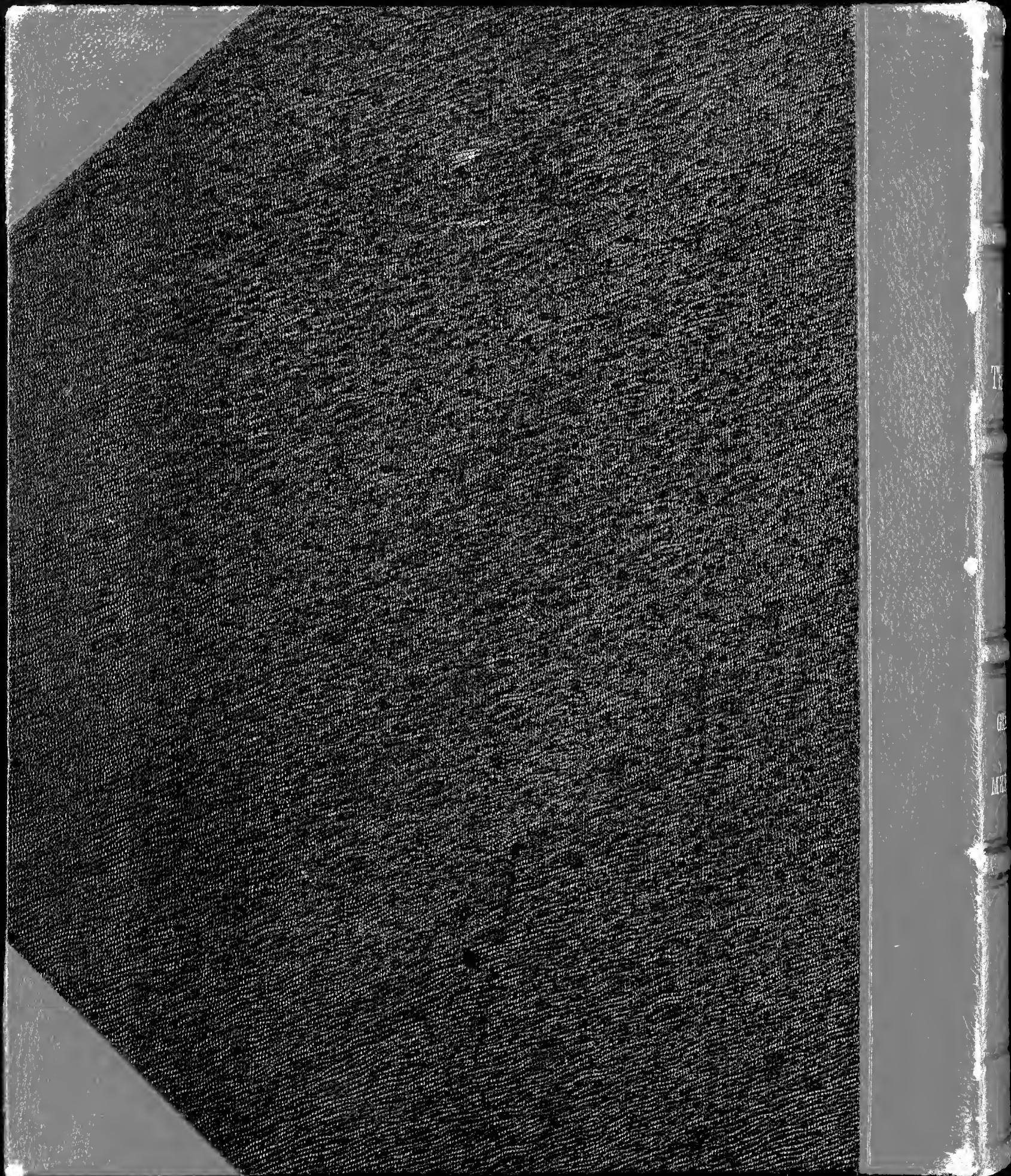
Order 2, arundinacea or 2 *Brazilensis* Trin. Andro-
pogon. p. 331, 2024 Rio Grande Brazil











3 Aegilops, 129
 4 Agrostis, 52, 54-55
 4 Aira, 122
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 2 Rottballia, 133 { Sclerostoma, 116
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 11 Trichachne, 21
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 3 Tritium, 128
 6 Uniola, 102, 103
 10 Utrachne, 29
 2 Utralepis, 123, 124
 9 Vilfa, 47-51, 53
 2 Windsoria, 123
 11 Zizania, 13

Grasses collected by Bolton & Orizaba. Mexico

No 121 Orthopogon setarius Mx.

121 Setaria glauca K. & B.

Kittach numbers.

(1) Paspalum plicatulum Michx.

(2) Pasp. conjugatum Bong.

(3) P. lentiferum? Lami. var. plicatulum Michx.
Dum. ex Benth. 1716

(4) Digitaria sanguinalis var. marginata

(5) Panicum dichotomum L.

(6) P. dichotomum? L. spiculis subglobosis

(7) P. divaricatum L.

(8) P. glutinosum Sw.

(9) P. virgatum L.

157. Paspalum conspersum Schrad
probably a form of P. virgatum L.

155. P. reptans Mx.

164 Andropogon / Amphiphiis / Lagotis
ruides L.C.

168 Anatherum bicorne K. & B.

169. Pionurus citiaria HBK.

171. Schizachyrium setiforme Mx.

179. Muhlenbergia capillaris Pur.

180 Lycurus phalaroides K. & B.

188 Panicum (Virgaria) laxum Sw.

193 Sporobolus purpurascens Ham
var. foliis non citatis

209 Agrostis geminiflora HBK.

218 Schizanthus (Lus) Galii L.

226 Bromus reynaudii B. aspen.

229 Spicampus stricta Presl.

230 Arundinella Desfontiana Mx.

231 — " — "

234 — " — "

(12) Berchtoldia bromoides Presl.

(13) Muhlenbergia diffusa Schrad.

(14) M. citiata Pur.

(15) M. michiganensis Presl. M. sylvestris
folia super. dens. bistrata

(16) Agrostis mexicana Presl.

(17) Agrostis peruviana Presl.

(18) Sporobolus uni. sp.? an S. virgatus Presl.

(19) Penciloma crinitum Presl.

(20) Agrostis uni. sp. intermediate between
A. michiganensis and A. unisetis.

(21) A. geminiflora (P. 209) very young state.

(22) Alopecurus indica Gaertn.

(23) Pisetum degenoides HBK.

(24) Poa annua L.

(25) Bragrostis lugens. folia teretia

(26) L. sanna HBK.

(27) Elymus virginicus L.

(28) Schizachyrium endersii HBK.